


# Invitation to Bid

<b>LSUHSC New Orleans</b>				<b>BIDS WILL BE PUBLICLY OPENED:</b>  <div style="display: flex; justify-content: space-between;"> <span><b>April 06, 2010</b></span> <span><b>02:00 PM</b></span> </div>	
VENDOR NO. : SOLICITATION : <b>DSAHU1</b> OPENING DATE : <b>04/06/2010</b>		Return Bid In Envelope/Labels Provided to: Purchasing Department 433 Bolivar St Room 623 New Orleans LA 70112		<div style="display: flex; justify-content: space-between;"> <div> <b>BUYER</b> : McCampbell, John T.  <b>BUYER PHONE</b> : 504/568-4883  <b>DATE ISSUED</b> : 02/22/2010  <b>REQ. NO</b> :  <b>FISCAL YEAR</b> : 0 </div> </div>	
Dental School AHU Purchase					
<b>INSTRUCTIONS TO BIDDERS</b>					
<ol style="list-style-type: none"> <li>1. READ THE ENTIRE BID, INCLUDING ALL TERMS AND CONDITIONS AND SPECIFICATIONS.</li> <li>2. FILL IN ALL BLANK SPACES.</li> <li>3. ALL BID PRICES MUST BE TYPED OR WRITTEN IN INK. ANY CORRECTIONS, ERASURES OR OTHER FORMS OF ALTERATION TO UNIT PRICES SHOULD BE INITIALIZED BY THE BIDDER.</li> <li>4. BID PRICES SHALL INCLUDE DELIVERY OF ALL ITEMS F.O.B. DESTINATION OR AS OTHERWISE PROVIDED. BIDS CONTAINING "PAYMENT IN ADVANCE" OR "C.O.D." REQUIREMENTS MAY BE REJECTED. PAYMENT IS TO BE MADE WITHIN 30 DAYS AFTER RECEIPT OF PROPERLY EXECUTED INVOICE OR DELIVERY, WHICHEVER IS LATER.</li> <li>5. SPECIFY YOUR PAYMENT TERMS: _____ . CASH DISCOUNTS FOR LESS THAN 30 DAYS OR LESS THAN 1% WILL BE ACCEPTED, BUT WILL NOT BE CONSIDERED IN DETERMINING AWARDS</li> </ol>					
BY SIGNING THIS BID, THE BIDDER CERTIFIES:					
<ul style="list-style-type: none"> <li>* THAT NEITHER THIS BUSINESS ENTITY NOR ANY OF ITS EMPLOYEES OR SUBCONTRACTORS IS CURRENTLY LISTED AS EXCLUDED OR SANCTIONED BY EITHER THE DEPARTMENT OF HEALTH AND HUMAN SERVICES, OFFICE OF INSPECTOR GENERAL (OIG) OR THE GENERAL SERVICES ADMINISTRATION (GSA).</li> <li>* THAT IF THIS BUSINESS ENTITY OR ANY OF ITS EMPLOYEES OR SUBCONTRACTORS APPEAR ON EITHER LISTING, MY BID WILL BE REJECTED.</li> <li>* THAT IF AT ANY TIME DURING THE TERM OF THE CONTRACT AWARDED AS A RESULT OF THIS INVITATION TO BID, THIS ENTITY OR ANY OF ITS EMPLOYEES OR SUBCONTRACTORS APPEARS ON EITHER LISTING, MY COMPANY WILL NOTIFY THE CONTRACTING AGENCY, AND THE CONTRACT WILL BE TERMINATED. THE CONTRACTING AGENCY WILL NOT BE LIABLE FOR ANY DAMAGES RESULTING FROM SAID TERMINATION.</li> </ul>					
THE BIDDER FURTHER CERTIFIES:					
<ul style="list-style-type: none"> <li>* COMPLIANCE WITH ALL INSTRUCTIONS TO BIDDERS, TERMS, CONDITIONS, AND SPECIFICATIONS.</li> <li>* THIS BID IS MADE WITHOUT COLLUSION OR FRAUD.</li> <li>* THAT ALL TAXES DULY ASSESSED BY THE STATE OF LOUISIANA AND IT'S SUBDIVISIONS, INCLUDING FRANCHISE TAXES, PRIVILEGE TAXES, SALES TAXES AND ALL OTHER TAXES FOR WHICH THE FIRM IS LIABLE HAVE BEEN PAID.</li> <li>* THAT IF MY BID IS ACCEPTED WITHIN _____ DAYS FROM BID CLOSING TIME, MY FIRM WILL FURNISH ANY OR ALL OF THE ITEMS (OR SECTIONS) AT THE PRICE OPPOSITE EACH ITEM (OR SECTION).</li> <li>* DELIVERY WILL BE MADE WITHIN _____ DAYS AFTER RECEIPT OF ORDER.</li> </ul>					
VENDOR PHONE NUMBER:		TITLE		DATE	
FAX NUMBER:					
SIGNATURE OF AUTHORIZED BIDDER (MUST BE SIGNED)			NAME OF BIDDER (TYPED OR PRINTED)		

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<b>STANDARD TERMS &amp; CONDITIONS</b>	Page 2 of 5
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6. DESIRED DELIVERY: 10 DAYS ARO, UNLESS SPECIFIED ELSEWHERE
7. TO ASSURE CONSIDERATION, ALL BIDS SHOULD BE SUBMITTED IN THE SPECIAL ENVELOPE, OR USE BID LABEL IF FURNISHED FOR THAT PURPOSE. IN THE EVENT YOUR BID CONTAINS BULKY SUBJECT MATERIAL, THE SPECIAL BID ENVELOPE SHOULD BE FIRMLY AFFIXED TO THE MAILING ENVELOPE.
8. BIDS SUBMITTED ARE SUBJECT TO PROVISIONS OF THE LAWS OF THE STATE OF LOUISIANA INCLUDING BUT NOT LIMITED TO L.R.S. 39:1551-1736; PURCHASING RULES AND REGULATIONS; EXECUTIVE ORDERS; STANDARD TERMS AND CONDITIONS; SPECIAL CONDITIONS; AND SPECIFICATIONS LISTED IN THIS SOLICITATION.
9. IMPORTANT: THIS BID IS TO BE MANUALLY SIGNED IN INK BY A PERSON AUTHORIZED TO BIND THE VENDOR (SEE NO.31).
10. INQUIRIES: ADDRESS ALL INQUIRIES AND CORRESPONDENCE TO THE BUYER AT THE PHONE NUMBER AND ADDRESS SHOWN ABOVE.
11. BID FORMS: ALL WRITTEN BIDS, UNLESS OTHERWISE PROVIDED FOR, SHOULD BE SUBMITTED ON, AND IN ACCORDANCE WITH FORMS PROVIDED, PROPERLY SIGNED (SEE #31). BIDS MUST BE RECEIVED AT THE ADDRESS SPECIFIED IN THE SOLICITATION PRIOR TO BID OPENING TIME IN ORDER TO BE CONSIDERED.
12. STANDARDS OR QUALITY. ANY PRODUCT OR SERVICE BID SHALL CONFORM TO ALL APPLICABLE FEDERAL AND STATE LAWS AND REGULATIONS AND THE SPECIFICATIONS CONTAINED IN THE SOLICITATION. UNLESS OTHERWISE SPECIFIED IN THE SOLICITATION, ANY MANUFACTURER'S NAME, TRADE NAME, BRAND NAME, OR CATALOG NUMBER USED IN THE SPECIFICATION IS FOR THE PURPOSE OF DESCRIBING THE STANDARD OF QUALITY, PERFORMANCE, AND CHARACTERISTICS DESIRED AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION. BIDDER MUST SPECIFY THE BRAND AND MODEL NUMBER OF THE PRODUCT OFFERED IN HIS/HER BID. BIDS NOT SPECIFYING BRAND AND MODEL NUMBER SHALL BE CONSIDERED AS OFFERING THE EXACT PRODUCTS SPECIFIED IN THE SOLICITATION.
13. DESCRIPTIVE INFORMATION. BIDDERS PROPOSING AN EQUIVALENT BRAND OR MODEL SHOULD SUBMIT WITH THE BID, INFORMATION (SUCH AS ILLUSTRATIONS, DESCRIPTIVE LITERATURE, TECHNICAL DATA) SUFFICIENT FOR LSUHSC TO EVALUATE QUALITY, SUITABILITY, AND COMPLIANCE WITH THE SPECIFICATIONS IN THE SOLICITATION. FAILURE TO SUBMIT DESCRIPTIVE INFORMATION MAY CAUSE BID TO BE REJECTED. ANY CHANGE MADE TO A MANUFACTURER'S PUBLISHED SPECIFICATION SUBMITTED FOR A PRODUCT SHALL BE VERIFIABLE BY THE MANUFACTURER. IF ITEM(S) BID DO NOT FULLY COMPLY WITH SPECIFICATIONS (INCLUDING BRAND AND/OR PRODUCT NUMBER), BIDDER MUST STATE IN WHAT RESPECT ITEMS(S) DEVIATE. FAILURE TO NOTE EXCEPTIONS ON THE BID FORM WILL NOT RELIEVE THE SUCCESSFUL BIDDER(S) FROM SUPPLYING THE ACTUAL PRODUCTS REQUESTED.
14. BID OPENING. BIDDERS MAY ATTEND THE BID OPENING, BUT NO INFORMATION OR OPINIONS CONCERNING THE ULTIMATE CONTRACT AWARD WILL BE GIVEN AT THE BID OPENING OR DURING THE EVALUATION PROCESS. BIDS MAY BE EXAMINED WITHIN 72 HOURS AFTER BID OPENING. INFORMATION PERTAINING TO COMPLETED FILES MAY BE SECURED BY VISITING LSUHSC DURING NORMAL WORKING HOURS. WRITTEN BID TABULATIONS WILL NOT BE FURNISHED.
15. AWARDS. AWARD WILL BE MADE TO THE LOWEST RESPONSIBLE AND RESPONSIVE BIDDER. LSUHSC RESERVES THE RIGHT TO AWARD ITEMS SEPARATELY, GROUP, OR IN TOTAL, AND TO REJECT ANY OR ALL BIDS AND WAIVE ANY INFORMALITIES.
16. PRICES. UNLESS OTHERWISE SPECIFIED BY LSUHSC IN THE SOLICITATION, BID PRICES MUST BE COMPLETE, INCLUDING TRANSPORTATION PREPAID BY BIDDER TO DESTINATION AND FIRM FOR ACCEPTANCE FOR A MINIMUM OF 30 DAYS. IF ACCEPTED, PRICES MUST BE FIRM FOR THE CONTRACTUAL PERIOD. BIDS OTHER THAN F.O.B. DESTINATION MAY BE REJECTED. PRICES SHOULD BE QUOTED IN THE UNIT (EACH,

# Invitation to Bid

<b>STANDARD TERMS &amp; CONDITIONS</b>	Page 3 of 5
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BOX, CASE, ETC.) AS SPECIFIED IN THE SOLICITATION.

17.DELIVERIES. BIDS MAY BE REJECTED IF THE DELIVERY TIME INDICATED IS LONGER THAN THAT SPECIFIED IN THE SOLICITATION.

18.TAXES. VENDOR IS RESPONSIBLE FOR INCLUDING ALL APPLICABLE TAXES IN THE BID PRICE. LSUHSC AGENCIES ARE EXEMPT FROM ALL STATE AND LOCAL SALES AND USE TAXES.

19.NEW PRODUCTS. UNLESS SPECIFICALLY CALLED FOR IN THE SOLICITATION, ALL PRODUCTS FOR PURCHASE MUST BE NEW, NEVER PREVIOUSLY USED, AND THE CURRENT MODEL AND/OR PACKAGING. NO REMANUFACTURED, DEMONSTRATOR, USED OR IRREGULAR PRODUCT WILL BE CONSIDERED FOR PURCHASE UNLESS OTHERWISE SPECIFIED IN THE SOLICITATION. THE MANUFACTURER'S STANDARD WARRANTY WILL APPLY UNLESS OTHERWISE SPECIFIED IN THE SOLICITATION.

20.CONTRACT CANCELLATION. THE STATE OF LOUISIANA HAS THE RIGHT TO CANCEL ANY CONTRACT, IN ACCORDANCE WITH PURCHASING RULES AND REGULATIONS, FOR CAUSE INCLUDING BUT NOT LIMITED TO THE FOLLOWING: (1) FAILURE TO DELIVER WITHIN THE TIME SPECIFIED IN THE CONTRACT; (2) FAILURE OF THE PRODUCT OR SERVICE TO MEET SPECIFICATIONS, CONFORM TO SAMPLE QUALITY OR TO BE DELIVERED IN GOOD CONDITION; (3) MISREPRESENTATION BY THE CONTRACTOR; (4) FRAUD, COLLUSION CONSPIRACY OR OTHER UNLAWFUL MEANS OF OBTAINING ANY CONTRACT WITH THE STATE; (5) CONFLICT OF CONTRACT PROVISIONS WITH CONSTITUTIONAL OR STATUTORY PROVISIONS OF STATE OR FEDERAL LAW; (6) ANY OTHER BREACH OF CONTRACT.

21.DEFAULT OF CONTRACT. FAILURE TO DELIVER WITHIN THE TIME SPECIFIED IN THE BID WILL CONSTITUTE A DEFAULT AND MAY CAUSE CANCELLATION OF THE CONTRACT. WHERE THE UNIVERSITY HAS DETERMINED THE CONTRACTOR TO BE IN DEFAULT, THE UNIVERSITY RESERVES THE RIGHT TO PURCHASE AN OR ALL PRODUCTS OR SERVICES COVERED BY THE CONTRACT ON THE OPEN MARKET AND TO CHARGE THE CONTRACTOR WITH COST IN EXCESS OF THE CONTRACT PRICE. UNTIL SUCH ASSESSED CHARGES HAVE BEEN PAID, NO SUBSEQUENT BID FROM THE DEFAULTING CONTRACTOR WILL BE CONSIDERED.

22.ORDER OF PRIORITY. IN THE EVENT THERE IS A CONFLICT BETWEEN THE INSTRUCTIONS TO BIDDERS OR STANDARD CONDITIONS AND THE SPEICAL CONDITIONS, THE SPECIAL CONDITIONS SHALL GOVERN.

23.APPLICABLE LAW. ALL CONTRACTS SHALL BE CONSTRUED IN ACCORDANCE WITH AND GOVERNED BY THE LAWS OF THE STATE OF LOUISIANA.

24.EQUAL OPPORTUNITY. BY SUBMITTING AND SIGNING THIS BID, BIDDER AGREES THAT HE/SHE WILL NOT DISCRIMINATE IN THE RENDERING OF SERVICES TO AND/OR EMPLOYMENT OF INDIVIDUALS BECAUSE OF RACE, COLOR, RELIGION, SEX, AGE, NATIONAL ORIGIN, HANDICAP, DISABILITY, VETERAN STATUS, OR A OTHER NON-MERIT FACTOR.

25.SPECIAL ACCOMMODATIONS. ANY "QUALIFIED INDIVIDUAL WITH DISABILITY" AS DEFINED BY THE AMERICANS WITH DISABILITIES ACT WHO HAS SUBMITTED A BID AND DESIRES TO ATTEND THE BID OPENING, MUST NOTIFY THIS OFFICE IN WRITING NOT LATER THAN SEVEN DAYS PRIOR TO THE BID OPENING DATE OF THEIR NEED FOR SPECIAL ACCOMMODATIONS. IF THE REQUEST CANNOT BE REASONABLY PROVIDED, THE INDIVIDUAL WILL BE INFORMED PRIOR TO THE BID OPENING.

26.IDEMNITY. CONTRACTOR AGREES, UPON RECEIPT OF WRITTEN NOTICE OF A CLAIM OR ACTION, TO DEFEND THE CLAIM OR ACTION, OR TAKE OTHER APPROPRIATE MEASURE, TO IDEMNIFY, AND HOLD HARMLESS, LSUHSC, ITS OFFICERS, ITS AGENTS AND ITS EMPLOYEES FROM AND AGAINST ALL CLAIMS AND ACTIONS FOR BODILY INJURY, DEATH OR PROPERTY DAMAGES CAUSED BY THE FAULT OF THE CONTRACTOR,

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<p>OFFICERS, ITS AGENTS, OR ITS EMPLOYEES. CONTRACTOR IS OBLIGATED TO INDEMNIFY ONLY TO THE EXTENT OF THE FAULT OF THE CONTRACTOR, ITS OFFICERS, ITS AGENTS, OR ITS EMPLOYEES. HOWEVER, THE CONTRACTOR SHALL HAVE NO OBLIGATION AS SET FORTH ABOVE WITH RESPECT TO ANY CLAIM OR ACTION FROM BODILY INJURY, DEATH OR PROPERTY DAMAGES ARISING OUT OF THE FAULT OF THE UNIVERSITY, ITS OFFICERS, ITS AGENTS OR ITS EMPLOYEES.</p> <p>27. INTERPRETATION OF DOCUMENT: ANY INTERPRETATION OF THE BID OR QUOTATION DOCUMENT WILL ONLY BE MADE BY AN ADDENDUM ISSUED IN WRITING BY THE PURCHASING DEPARTMENT. SUCH ADDENDUM WILL BE MAILED OR DELIVERED TO EACH PERSON RECEIVING A SET OF THE ORIGINAL BID OR QUOTATION DOCUMENTS. LSUHSC WILL NOT BE RESPONSIBLE FOR ANY OTHER EXPLANATION OR INTERPRETATION OF THE DOCUMENTS.</p> <p>28. ACCEPTANCE OF BID: ONLY THE ISSUANCE OF A PURCHASE ORDER OR A SIGNED CONTRACT CONSTITUTES ACCEPTANCE ON THE PART OF LSUHSC.</p> <p>29. ADHERENCE TO JCAHO STANDARDS: WHERE APPLICABLE, LSUHSC IS ACCREDITED BY THE JOINT COMMISSION ON ACCREDITATION OF HEALTHCARE ORGANIZATIONS AND AS SUCH ALL CONTRACTORS, SUBCONTRACTORS, AND VENDORS AGREE TO ADHERE TO THE APPLICABLE STANDARDS PROMULGATED BY THE COMMISSION.</p> <p>30. PREFERENCE: IN ACCORDANCE WITH LOUISIANA REVISED STATUTES 39:1595, A PREFERENCE MAY BE ALLOWED FOR PRODUCTS MANUFACTURED, PRODUCED, GROWN, OR ASSEMBLED IN LOUISIANA OF EQUAL QUALITY. DO YOU CLAIM THIS PREFERENCE? YES _____ NO _____          SPECIFY THE LINE NUMBER (S) _____          SPECIFY LOCATION WITHIN LOUISIANA WHERE THIS PRODUCT IS MANUFACTURED, PRODUCED, GROWN OR ASSEMBLED _____          (NOTE: IF MORE SPACE IS REQUIRED, INCLUDE ON SEPARATE SHEET.)          DO YOU HAVE A LOUISIANA BUSINESS WORK FORCE? YES _____ NO _____          IF SO, DO YOU CERTIFY THAT AT LEAST FIFTY PERCENT (50%) OF YOUR LOUISIANA WORKFORCE IS COMPRISED OF LOUISIANA RESIDENTS?          YES _____ NO _____          FAILURE TO SPECIFY ABOVE INFORMATION MAY CAUSE ELIMINATION FROM PREFERENCES.          PREFERENCES SHALL NOT APPLY TO SERVICE CONTRACTS.</p> <p>31. SIGNATURE AUTHORITY. IN ACCORDANCE WITH L.R.S. 39:1594 (ACT 121), THE PERSON SIGNING THE BID MUST BE:</p> <p>31.1. A CURRENT CORPORATE OFFICER, PARTNERSHIP MEMBER OR OTHER INDIVIDUAL SPECIFICALLY AUTHORIZED TO SUBMIT A BID AS REFLECTED IN THE APPROPRIATE RECORDS ON FILE WITH THE SECRETARY OF STATE; OR</p> <p>31.2. AN INDIVIDUAL AUTHORIZED TO BIND THE VENDOR AS REFLECTED BY AN ACCOMPANYING CORPORATE RESOLUTION, CERTIFICATE OR AFFIDAVIT; OR</p> <p>31.3. AN INDIVIDUAL LISTED ON THE STATE OF LOUISIANA BIDDER'S APPLICATION AS AUTHORIZED TO EXECUTE BIDS. BY SIGNING THE BID, THE BIDDER CERTIFIES COMPLIANCE WITH THE ABOVE.</p>	

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<b>PRICE SHEET</b>		Page 5 of 5			
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UNLESS SPECIFIED ELSEWHERE SHIP TO:					
<b>Line No.</b>	<b>Description</b>			<b>Unit Price</b>	<b>Extended Amount</b>
1	<p>LSU Health Sciences Center (LSUHSC) is soliciting the purchase, warehousing, and delivery of eighteen (18) Air Handling Units to the School of Dentistry at 1100 Florida Ave. in New Orleans with the option for six (6) additional air handling units.</p> <p>Specify brand, model bid(if applicable)</p> <hr style="width: 30%; margin-left: 0;"/> <p>Note: Your bid pricing should be indicated on Section 5: Bid Tabulation Sheet, at the end of the specifications.</p> <p>Title 39: Equipment Supply Bid</p>	24.00	EA		

## **Specific Conditions Bid # DSAHU1**

**Bid Opening Date: 4/6/2010**

**A Mandatory Prebid Walkthrough will be held on 3/4/2010 @ 2:00PM**

### **Definitions:**

*Bidder – a legal entity that submits an offer to sell to the Owner on a specified body of work. Generally where the term “Bidder” is used in the specifications, the indication is that the requirement or responsibility is associated with the bid submittal or other pre-award activities.*

*Supplier –Generally where the term “Supplier” is used in the specifications, the indication is that the requirement or responsibility is post-award.*

**INTERPRETATION OF DOCUMENTS : If any person contemplating submitting a bid is in doubt of the meaning of any part of the specifications, plans or other proposed contract documents and/or desired approval of "or equal" products he may submitted to John McCampbell at e-mail [jmccam@lsuhsc.edu](mailto:jmccam@lsuhsc.edu) or Fax 504-717-2914 a written request for an interpretation or prior approval not later than March 11, 2010 by 2:00 pm. Any interpretation of documents and prior approvals will be made only by addendum duly issued and mailed or delivered to each bidder receiving a set of the plans and specifications.**

### **Termination by LSUHSC for Convenience**

LSUHSC may, at any time, terminate the Contract for their convenience and without cause.

Upon receipt of written notice from LSUHSC of such termination for their convenience, the Supplier shall: cease operations as directed by LSUHSC in the notice; take actions necessary, or that LSUHSC may direct, for the protection and preservation of the work; and except for work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

In case of such termination for LSUHSC's convenience, the Supplier shall be entitled to receive payment for work executed along with reasonable overhead and profit.

LSUHSC shall not be responsible or otherwise liable for any demobilization costs or incidental or consequential damages resulting from such termination.

### **Termination for Noncompliance**

LSUHSC may terminate this contract for cause based upon the failure of the Supplier to comply with the terms and/or conditions of the Contract; provided that LSUHSC shall give the Supplier written notice specifying the Supplier's failure. If within thirty (30) days after receipt of such notice, the Supplier shall not have either corrected such failure or, in the case which cannot be corrected in thirty (30) days, begun in good faith to correct said failure and thereafter proceeded diligently to complete such correction, then LSUHSC may, at its option, place the Supplier in default and the Contract shall terminate on the date specified in such notice. The Supplier may exercise any rights available to it under Louisiana law to terminate for cause upon the failure of LSUHSC to comply with the terms and conditions of this contract; provided that the Supplier shall give LSUHSC written notice specifying LSUHSC's failure and a reasonable opportunity for LSUHSC to cure the defect.

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**LOUISIANA STATE UNIVERSITY  
HEALTH SCIENCES CENTER  
NEW ORLEANS CAMPUS  
AIR HANDLING UNITS – BID #DSAHU1**

**Section 1: Scope of Work**

**1.0 Summary:**

LSU Health Sciences Center (LSUHSC) is soliciting the purchase, warehousing, and delivery of eighteen (18) Air Handling Units to the School of Dentistry at 1100 Florida Ave. in New Orleans with the option for six (6) additional air handling units. It has been determined that the optimal rate of two AHUs can be installed in a 45 day period. In the delivery scenario, the air handling units are to be produced in a manner that facilitates the delivery of two (2) units every 45 days beginning in September 2010. Upon successful inspection of the units, LSUHSC will pay for the units as noted in Section 3.3, and expect a continuation of the shipments at the same rate unit all units have been delivered. Brands, models, and finish materials have been identified as acceptable and compatible with the space, and functional requirements of the University. This is not a closed specification. Equivalent product submittals are encouraged, but must be pre-approved as described in the specification. Equivalency will be determined by an evaluation of the construction, materials, and its compatibility with our existing designs. In order to maintain compatibility among all equipment, this will be an **All or None** award.

**1.1 Building Descriptions:**

The LSUHSC Buildings to be addressed as part of this specification include the following:

- School of Dentistry – 1100 Florida Ave., New Orleans

All drawings provided in this specification indicating the location and dimensions of equipment and spaces are meant as a guide to the Bidder. It is the responsibility of the Bidder to field verify all dimensions and job site conditions that may affect the cost of the project. **Verification of job conditions and dimensions prior to bid is the responsibility of the Bidder.**

## **1.2 LSUHSC Representation:**

The intended designated representative of LSUHSC for this project is Adrienne Thorpe. Any changes to the scope of work, type or quality of materials, or scheduling must be submitted to the designated LSUHSC representative. Adrienne Thorpe can be contacted via phone at (504) 568-2862, via fax at (504) 568-2872.

Mail should be addressed to:  
Adrienne Thorpe, Energy Engineer  
LSU Health Sciences Center  
Department of Facility Services,  
1901 Perdido – Room 2203  
New Orleans, LA 70112

Should the Project Coordinator be unavailable, the Director of Facility Services, Treacy Stone, should be contacted with any project related questions or issues. Mr. Stone can be contacted via phone at (504) 568-2870.

## **Section 2: Special Project Information**

After the job has been awarded, no changes will be made to any part of the job without written approval from Adrienne Thorpe and an authorized representative from the Purchasing Department. The proposed change will be submitted in writing, with a complete breakdown of all hours, and the individual cost of each.

No notice of completion, delivery memo, invoice, or other document will be signed, or approvals of any type given for any part of the job except by Adrienne Thorpe, or her designee or by Treacy Stone, Director of Facility Services.

Drawings and specifications are intended to provide the basis for the proper completion of the project suitable for the intended use of LSUHSC.

Items not expressly set forth but which are reasonably implied or necessary for the proper performance of this work shall be included.

## **Section 3: General Project Requirements**

### **3.1 Acceptable Manufacturer / Equivalents**

- A. Pre-Approved products are detailed in Section 4 of this specification.
- B. The listed manufacturer shall not be construed as closing specifications to other prospective manufacturers, but rather as establishing a level of quality for the equipment specified. Other equipment may be submitted for approval, as outlined below, by the date noted in “**Interpretation of Documents**” on page one of these specifications. Companies desiring to

submit a proposal shall submit all descriptive and technical information for their proposed solution including photographs, brochures, drawings, and technical specifications.

- C. Procedure for Establishing Equivalency and gaining Pre-Approval:
1. Submit written request for equivalency including manufacturer, model, and all other measurable characteristics for review by LSUHSC.
  2. Overnight equipment submittals to Adrienne Thorpe.
  3. LSUHSC will review and advise as to the acceptability of the submission within 10 working days.
  4. If submission is deemed acceptable, an addendum will be issued to all bidders and posted on the LAPAC website.

### **3.2 Project Administration and Meetings**

**On March 4, 2010 @ 2pm**, one pre-bid walkthrough of the spaces will be held. Suppliers should meet in the first lobby of the Clinic Building at 1100 Florida Ave. Attendance at the pre-bid by an authorized representative of the manufacturer is required to submit a bid. An LSUHSC representative will have a sign-in sheet to verify the site visit. All bidders must visit the site to determine the scope of the job. No allowances for previously existing site conditions will be made after the bid. It is the responsibility of the bidder to thoroughly inspect the site to determine any and all factors, which will affect the bid.

### **3.3 Payment**

The payment terms of this contract are **net 30 days** from delivery and accepted successful inspection of the shipment. Partial payments may be approved by LSUHSC if partial deliveries are made in accordance with the specifications.

#### **Section 4: Project Specifications and Work Instructions:**

##### **A. Delivery Requirements:**

1. The delivery has been established as:
  - a. The air handling units are to be produced in a manner that facilitates the delivery of two units at a time with the first two units to be delivered in September 2010 and subsequent deliveries are to be made 45 days apart. **For any late deliveries a penalty of \$800.00 per day will be assessed.** LSUHSC will inspect the delivered units. Upon successful inspection of the units, LSUHSC will pay for the units as noted under the payment terms listed in Section 3.3 of this specification, and expect a continuation of the shipments at the same rate until all units have been delivered.  
**NOTE: LSU Health Sciences Center reserves the right should a change in the sequencing or delivery times be necessary; the University representative will give reasonable notice to the winning bidder for those units not in production affected by the change.**
2. The air handling units with the associated VSD are to be delivered two at a time in the following sequence (refer to attached drawings for reference). The sequence can only be changed by written direction from the LSUHSC project coordinator:
  - 1 AHU-8B & AHU-8C
  - 2 AHU-8A & AHU-8D
  - 3 AHU-3A, & AHU-6A
  - 4 AHU-3B & AHU-6B
  - 5 AHU-2A & AHU-5A
  - 6 AHU-2B & AHU-5B
  - 7 AHU-7C, AHU-7A, & AHU-4A
  - 8 AHU-7D, AHU-7B, & AHU-4B
  - 9 AHU-L2A & AHU-L3A
  - 10 AHU-L2B & AHU-L3B
  - 11 AHU-L4C & AHU-L4D
3. Air handling units shall be delivered demounted into sections, each of which shall fit in the existing freight elevator. Freight elevator door opening is approximately 8'-0" Tall X 5'-11" wide with the elevator cab dimension approximately 10'-4" high X 5'-8" Wide X 7'-11" deep.
4. When the contract is executed the first air handling units are to be put into production. Two weeks before the units are ready to be shipped

the successful bidder is to notify the project coordinator of the delivery date of the units.

5. Although the deliveries should be confirmed with the project coordinator, the next two units should be shipped 45 days after the first two units and two units will be shipped every 45 days thereafter in the sequence described on the first page of the drawings.
  6. The installation of these units is being handled through a separate contract. Deliveries should be coordinated closely with the project coordinator to achieve as close to just-in-time delivery and eliminate any requirement for storage.
  7. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected. If a deficiency (deviation from the specification) is discovered after the product is delivered and during the installation of the unit, the successful bidder will make all arrangements to correct the deficiency at no cost to LSUHSC (including but not limited to freight to and from any locations involved in correcting the deficiency, any addition parts, storage costs, fuel surcharges, labor, etc.)
  8. Delivery of the scheduled units is to be made to a location to be determined on the LSUHSC School of Dentistry Campus. The AHU's should be packaged in a way that will allow safe storage either outdoors or indoors (blocked, tarped, etc.). It is the successful bidder's responsibility to unload the units and set them in place at the location chosen by the project coordinator.
- B. Equipment Requirements: See attachment from GVA Engineering. Drawings for 24 units in the School of Dentistry.
- C. This is an all or none bid. Bidders should include all evidence of approvals on the equivalency submittals with their proposal. One total proposal price should be quoted to include all delivery and handling charges for all pieces outlined in the specification.
- D. Refer to GVA Attachment for those units that have been established as pre-qualified and meeting the University's needs.

## **Section 5: Bid Tabulation Sheet**

### **Bid Response**

Your bid should reflect all charges associated with the purchase. This includes all deliveries, warehousing fees, fuel surcharges, and any other fees associated with the production, movement, storage, and/or handling associated with this procurement:

**Base Bid – Air Handling Units 8B, 8C, 8A,**

**8D, 3A, 6A, 3B, 6B, 2A, 5A, 2B, 5B, 7C,**

**7A, 4A, 7D, 7B, and 4B**

**\$ \_\_\_\_\_**

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(FOB Destination, Delivery, Unloading on Site)

**Additional Air Handling Units pending additional funding**

**Unit L2A**

**\$ \_\_\_\_\_**

**Unit L3A**

**\$ \_\_\_\_\_**

**Unit L2B**

**\$ \_\_\_\_\_**

**Unit L3B**

**\$ \_\_\_\_\_**

**Unit L2A**

**\$ \_\_\_\_\_**

**Unit L3A**

**\$ \_\_\_\_\_**

---

(FOB Destination, Delivery, Unloading on Site)

**Total of 24 Air Handling Units**

**\$ \_\_\_\_\_**

\*\*\*For bid evaluation purpose the solicitation will be awarded based on the lowest price of the total of 24 Air Handling Units. \*\*\*

Attachments:

Specifications from GVA Engineering (15 Pages Dated 2/3/2010)

Drawing from GVA Engineering set dated 2/3/2010 and Numbered M1 – M14

# ***PROJECT MANUAL***

for

**Air Handling Unit  
Equipment Purchase Package  
LSU Health Science Center  
Dental School Campus  
1100 Florida Avenue  
New Orleans, LA 70119**

Prepared by:

***GVA ENGINEERING, L.L.C.***  
*2615 Edenborn Avenue, Suite C  
Metairie, Louisiana 70002  
Phone (504) 780-9330*

**GVA PROJECT NO. 2626-17**

**February 3, 2010**

**Set No. \_\_\_\_\_**

## **SECTION 15010 - MECHANICAL GENERAL PROVISIONS**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

A. The general provisions of the Contract apply to the work specified in DIVISION 15 - MECHANICAL.

B. Separation of Division 15 into Sections is for convenience only and is not intended to establish limits of work. Sections are as follows:

1. 15010 - MECHANICAL GENERAL PROVISIONS
2. 15600 - HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS

#### **1.2 DRAWINGS**

The drawings are diagrammatic and are intended to show the general arrangement and approximate physical sizes of equipment, piping and ductwork. Every nut, bolt, brace, hanger, piping or duct rise, drop, offset, etc., is not indicated or specified; each item required, necessary or incidental, for the proper and dependable operation of each system shall be provided under this Division whether specifically referred to or not.

#### **1.3 VISITING SITE**

The Bidder shall visit the site of proposed work so that he may understand the facilities, difficulties, and restrictions attending the execution of the Contract. No additional compensation will be allowed for failure to be so informed.

#### **1.4 GUARANTEE AND SERVICE**

A. The equipment, materials and workmanship shall be guaranteed for one year after substantial completion of a particular system.

B. During the one year period of guarantee, any defects in equipment, materials, or workmanship shall be promptly corrected without cost to the Owner.

### **PART 2 - PRODUCTS**

#### **2.1 MATERIALS AND WORKMANSHIP**

Equipment and materials shall be new and shall be listed by Underwriters' Laboratories, Inc. (UL) or Factory Mutual (FM) in categories for which standards have been set by that agency. Pressure vessels, as called for by respective codes, shall be stamped ASME and National Board Commission.

## 2.2 SUBMITTALS

A. Within 30 days after award of the Contract, submit for review six copies of descriptive equipment literature or shop drawings for the following items:

Air Handling Units  
Variable Speed Drives

B. The same equipment manufacturer shall be provided for multiple items of similar equipment, regardless of capacities, on this project, unless prior written deviation is given by the Engineer.

C. Submittals shall be identified with project name, equipment name and number as indicated on the drawings, and specification paragraph reference. Submittals shall be properly marked to show proposed model number and accessories being provided and shall have the Contractor's stamp certifying that he has reviewed the submittal and found it to be in accordance with the specifications and drawings.

D. Submittals which do not comply with the above will be returned without review, for resubmittal.

E. Submittals shall be reviewed and returned within 21 days.

## 2.3 MOTORS

A. Unless otherwise indicated, motors shall be NEMA Design B, constant speed, variable torque construction. Motors shall conform to the Energy Policy Act of 1992 and shall be of the premium efficiency type suitable for use with variable speed (variable frequency or voltage) motor drives. Electrical characteristics shall conform with the electrical supply as indicated on the electrical drawings.

B. Single-phase motors shall be split-phase or capacitor start type with built-in thermal overload. Three-phase motors shall be squirrel cage type.

C. Motors shall be guaranteed to operate continuously at full load with a 10% voltage variation above or below the specified voltage. Motors shall be rated for an ambient temperature of 40 degrees C and a temperature rise not to exceed 40 degrees C with a 1.15 service factor. Motors shall have either sleeve or pre-lubricated ball bearings as required for the particular application.

D. Motors shall be copper wound. Totally enclosed (TE) or totally enclosed fan cooled (TEFC) motors shall have Class F insulation. Motors shall be T-frame conforming to NEMA MG13 and tested in accordance with NEMA MG1 Part 12 and IEEE Test Procedure 112, Method B. Nameplate information shall include the manufacturer's nominal and guaranteed efficiency values.

E. Motors shall be totally enclosed (TE) or totally enclosed fan cooled (TEFC) type. Belt drive motors shall have bases with provisions for adjustment in field.

F. Motors shall be as manufactured by Emerson, General Electric, Marathon, U.S. Electric, or approved equal. Alternate manufacturers requesting approval shall submit evidence of a factory authorized service facility within a reasonable distance of the project to service or replace motors under warranty.

### **PART 3 - EXECUTION**

#### **3.1 OPERATING INSTRUCTIONS**

A. The Contractor shall provide the services of a competent mechanic to instruct the Owner in the care and operation of equipment.

B. Before final acceptance, the Contractor shall prepare and deliver to the Engineer three bound copies of operating instructions, which shall include:

1. Description of major components of systems, including the function of major items.
2. Detailed operating instructions and instructions for making routine minor adjustments.
3. Routine maintenance operations.
4. Manufacturer's catalog data, service instructions wiring diagrams, fabrication drawings and parts list for each piece of operating equipment.
5. Copies of equipment submittals and shop drawings, including review sheet, reviewed by and acceptable to the Engineer.
6. Guarantee and Warranty Information.
7. Names and telephone numbers for warranty contracts.

C. Literature shall be contained in hard back loose leaf type binders and divided into a suitable number of volumes so as to permit convenient heavy usage.

#### **3.2 STARTING AND TESTING**

A competent and experienced service and installation mechanic shall be employed by the Contractor to start test and adjust the equipment. The Engineer reserves the right to require the test of any item of equipment or machinery. Such tests shall be conducted by the Contractor in the presence of the Engineer.

### 3.3 . PROJECT CLOSEOUT DOCUMENTS

A. Final payment will be withheld until each applicable item has been provided to and is found satisfactory by the Engineer.

- END OF SECTION

## **SECTION 15600 - HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS**

### **PART 1 - GENERAL**

#### **1.1 SCOPE**

A. Work under this Section shall include providing Heating, Ventilating and Air Conditioning (HVAC) equipment for the project including appurtenances.

### **PART 2 - PRODUCTS**

#### **2.1 AIR HANDLING UNITS (Central Station)**

A. Provide air handling units of the central station type, configuration of size and capacity as scheduled on the drawings. Each unit shall be complete with casings, fans, condensate drain pan and coil sections with coils. The fan driven package shall be provided with variable pitch sheaves, suitable for adjustment within plus or minus 10 percent of specified rpm but selected so as not to exceed the maximum rpm of the unit and shall include the required V-belts. Motor shall be selected so that the brake horsepower at design conditions does not exceed 80 percent of the motor nameplate rating and shall be mounted on an adjustable motor base with belt guard, and accessories as indicated on the drawings. Fan shaft bearings shall be 200,000 hour average life. Fan motor shall be selected for a 1.15 service factor and V-belt drive assembly for a 1.50 service factor.

B. The motor fan assembly shall be mounted on vibration isolators internally in the fan section cabinet. Side brackets shall also be furnished for external isolators.

C. Provide hinged and latched access doors as specified herein and as indicated on the drawings.

D. The unit shall be constructed as a complete frame with removable panels. Removal of side panels shall not affect the structural integrity of the unit. The casing shall be able to withstand up to 6" w.g. negative static pressure. All exterior wall panels shall be made of galvanized steel. Closed-cell foam gasketing shall be provided where modules join to prevent air leakage.

E. Modules shall be factory insulated. Insulation and insulation adhesive shall comply with NFPA-90A requirements for flame spread and smoke generation. Insulation adhesive shall be UL listed.

F. Panels shall be of double-wall construction to facilitate cleaning of the unit interior. The interior wall shall be constructed of solid, galvanized steel. Insulation shall be 3 lb./ft.<sup>3</sup> density. Thermal resistance (R) shall be 8.33 ft.<sup>2</sup>•h•°F/Btu.

G. Drain pan shall be provided under each coil section and shall have drain connections on same side as coil piping connections. Drain pans shall be completely insulated with ½" thick foamed-in-place type insulation, securely fastened to pan with an

approved adhesive and sandwiched between the bottom pan and a stainless steel liner. Seams shall be sealed with a suitable mastic. Pans shall be pitched to the drain connections for positive drainage.

H. Fans shall be statically and dynamically balanced and tested after being installed in factory-assembled fan sections. Fan shafts shall not pass through their first critical speed as unit comes up to rated rpm. Permanently sealed, prelubricated fan ball bearings shall be mounted externally on each unit. Lubrication lines shall be factory mounted to insure positive lubrication to the fan shaft bearings and shall be brought to the outside of the casing to permit lubrication from the drive side only.

I. Fans shall be as scheduled centrifugal Class I for low pressure, Class II for medium pressure units and be statically and dynamically balanced and tested after being installed in factory-assembled fan sections. Fan shafts shall not pass through their first critical speed as unit comes up to rated rpm. Permanently sealed, prelubricated fan ball bearings shall be mounted externally on each unit. Lubrication lines shall be factory mounted to insure positive lubrication to the fan shaft bearings. *"Extend lubrication lines to the drive side of the fan housing to permit lubrication from service fittings on the drive side only"*.

1. Fan performance shall be certified as complying with ARI Standard 430 most recent edition.

2. Units shall have factory fabricated belt guards which conform to OSHA standards. Belt guards shall have a 2½" tachometer hole.

3. The total acoustic energy produced by the fans shall not exceed the scheduled values by more than 3 db in any of the 8 octave band from 63 to 8000 Hz under the condition of installation per AMCA standard 300 most recent edition referencing 10-12 watts.

4. Calculations and test data shall be an integral part of the submitted data and certified by the manufacturer.

J. Coils shall be a product of the unit manufacturer. They shall be of the copper fin, copper tube type. Tubes shall be mechanically expanded to bond the fin collars to the tube surfaces. Coils shall be a minimum of ½" O.D. copper tubes with copper fins. Coils shall have a type 316 stainless steel casing no lighter than 16-gauge. Coils shall be mounted in the coil casing and be accessible for service and shall be removable from the unit without dismantling the entire unit. Water cooling coils shall be enclosed in an insulated coil section. Coil header and "U" bends shall be contained within the unit's cabinet. Coils shall be pitched in the unit casing for proper drainage and shall be completely drainable, with both supply and return headers supplied with drain and vent connections extending through the unit casings. Coils shall be tested at 150 psig air pressure under water.

K. Filter boxes shall be a side access housing assembly designed to receive filters of the type and capacities scheduled on the drawings. Box shall be designed to insure snug fit of filters to prevent air by-pass.

L. Access Sections and Doors

1. Access doors shall be furnished in each section requiring access and where specifically indicated on the drawings. Doors shall be 4" less than height of access section unless otherwise shown on the drawings. Doors shall be equipped with hinges and hand-operated (no tools required) latch on both inside and outside of casing.

2. Access doors shall be hinged to open against system pressure.

M. Acceptable manufacturers: York Custom, Trane Custom, McQuay Custom, Temtrol or approved equal.

2.2 VARIABLE SPEED DRIVES (VSD)

A. Construction

1. VSDs and options shall be UL listed as a complete assembly. VSD's that require the customer to supply external fuses for the VSD to be UL listed are not acceptable. The base VSD shall be UL listed for 100 KAIC without the need for input fuses.

2. The VSD package as specified herein shall be enclosed in a UL Listed Type 1 enclosure, completely assembled and tested by the manufacturer in an ISO9001 facility. The VSD tolerated voltage window shall allow the VSD to operate from a line of +30% nominal, and -35% nominal voltage as a minimum.

3. VSD's that are manufactured by a third party and "brand labeled" shall not be acceptable.

4. The VSD shall be of the Pulse Width Modulated design converting the fixed utility voltage and frequency to a variable voltage and frequency output via a two step operation. Efficiency shall be 95% minimum at 100% speed and load. Line side displacement power factor shall not be less than (0.95) regardless of speed and load. The AFC shall be rated for 100% current for one minute.

5. The VSD shall be housed in a NEMA 1 metal enclosure to help limit RFI/EMI emissions.

6. Standard operating conditions shall be:

- a. Incoming three phase AC power, rated voltage  $\pm 10\%$ , 60 Hz.
- b. Humidity 0 to 95% (noncondensing and noncorrosive).
- c. Altitude 0 to 3,300 feet above sea level.
- d. Ambient temperature 0 to 40° C.

B. Compliance with IEEE 519

1. Input line filters shall be sized and provided as required by the VSD manufacturer to ensure compliance with IEEE standard 519. All VSD's shall include a minimum of 5% impedance reactors, no exceptions.

2. The VSD shall have an integral 5% impedance line reactors to reduce the harmonics to the power line and to add protection from AC line transients. The 5% impedance may be from dual (positive and negative DC bus) reactors, or 5% AC line reactors. VSD's with only one DC reactor shall add AC line reactors.

3. Provide a harmonic analysis for particular jobsite including total harmonic voltage distortion and total harmonic current distortion (TDD). The VSD manufacturer shall provide calculations; specific to this installation, showing total harmonic voltage distortion is less than 5%. Input filters shall be sized and provided as required by the VSD manufacturer to ensure compliance with IEEE standard 519. All VSD's shall include a minimum of 5% impedance reactors, no exceptions.

#### C. Design Characteristics and Features

1. The VSD shall provide the following design features as standard:

a. Microprocessor logic. The VSD shall be microprocessor based and utilize digital input for parameter adjustments. Use of potentiometers for parameter adjustment is not acceptable.

b. Auto restart. The VSD shall automatically attempt to restart after a malfunction or an interruption of power. The number of attempted restarts shall be selectable (0 to 5). If the drive reaches the limit of restarts without successfully restarting and running for a selectable length of time (60 to 600 seconds), the restart circuit shall lockout and shall provide contact annunciation.

c. Current limit. A current limit circuit shall be provided to limit motor current to a preset adjustable maximum level by reducing the drive operating speed or acceleration rate when the limit is reached. Range of adjustment shall be from 50 to 110%.

d. Digital output displays and input parameter programming. The VSD shall include a digital display and digital input programming capability on the main logic board. The display shall be programmable for indication of output speed in rpm, frequency or percent of base speed; motor amps, output motor volts, and output load. The display shall also function as a first fault indicator.

e. Input signal follower. The input signal follower circuit shall have selectable differential inputs and accept an electrical speed command from an external pneumatic (0 - 15 psi) source.

f. Motor overload protection including phase reversal and single phasing. Electronic motor protection shall be provided which is capable of predicting motor winding temperature based on inputting specific parameters including motor design type - TEFC, ODP, or other type, and speed range. The protection shall provide an orderly shutdown should the motor's thermal capabilities be exceeded.

g. The VSD shall provide a programmable proof of flow from a relay output (broken belt / broken coupling). The drive shall be programmable to signal this condition via a keypad warning, relay output and/or over the serial communications bus. Relay outputs shall include programmable time delays that will allow for drive acceleration from zero speed without signaling a false underload condition.

h. The VSD shall have an RS-485 port as standard. The standard protocols shall be Modbus, BACnet, Johnson Controls N2 bus, and Siemens Building Technologies FLN. Each individual drive shall have the protocol in the base VSD. The use of third party gateways and multiplexers is not acceptable. All protocols shall be "certified" by the governing authority (ie BTL Listing for BacNet. Use of non-certified protocols is not allowed.

i. The BACnet connection shall be an RS485, MSTP interface operating at 9.6, 19.2, 38.4, or 76.8 Kbps. The connection shall be tested by the BACnet Testing Labs (BTL) and be BTL Listed. The BACnet interface shall conform to the BACnet standard device type of an Applications Specific Controller (B-ASC). The interface shall support all BIBBs defined by the BACnet standard profile for a B-ASC including, but not limited to.

j. Motor protection from single phase power conditions - The Bypass system must be able to detect a single phase input power condition while running in bypass, disengage the motor in a controlled fashion, and give a single phase input power indication. Bypass systems not incorporating single phase protection in Bypass mode are not acceptable.

k. The system (VSD and Bypass) tolerated voltage window shall allow the system to operate from a line of +30%, -35% nominal voltage as a minimum. The system shall incorporate circuitry that will allow the drive or bypass contactor to remain "sealed in" over this voltage tolerance at a minimum.

l. Serial communications - the bypass and VSD shall be capable of being monitored and/or controlled via serial communications. Provide communications protocols for ModBus; Johnson Controls N2; Siemens Building Technologies FLN (P1) and BacNet.

m. The bypass control shall be programmable for manual or automatic transfer to bypass. The user shall be able to select via keypad programming which drive faults will generate an automatic transfer to bypass and which faults require a manual transfer to bypass. The keypad shall

Include Hand-Off-Auto selections and manual speed control. The drive shall incorporate "bumpless transfer" of speed reference when switching between "Hand" and "Auto" modes. There shall be fault reset and "Help" buttons on the keypad. The Help button shall include "on-line" assistance for programming and troubleshooting.

n. There shall be a built-in time clock in the VSD keypad. The clock shall have a battery back up with 10 years minimum life span. The clock shall be used to date and time stamp faults and record operating parameters at the time of fault. If the battery fails, the VSD shall automatically revert to hours of operation since initial power up. The clock shall also be programmable to control start/stop functions, constant speeds, PID parameter sets and output relays. The VSD shall have a digital input that allows an override to the time clock (when in the off mode) for a programmable time frame. There shall be four (4) separate, independent timer functions that have both weekday and weekend settings.

o. The VSD shall include a fireman's override input. Upon receipt of a contact closure from the fireman's control station, the VSD shall operate at an adjustable preset speed. The mode shall override all other inputs (analog/digital, serial communication, and all keypad commands) and force the motor to run at the adjustable, preset speed. "Override Mode" shall be displayed on the keypad. Upon removal of the override signal, the VSD shall resume normal operation.

p. All optional features shall be UL Listed by the drive manufacturer as a complete assembly and carry a UL508 label.

q. A complete factory wired and tested bypass system consisting of an output contactor and bypass contactor. Overload protection and shall be provided in both drive and bypass modes.

r. Provide with door interlocked, padlockable circuit breaker that will disconnect all input power from the drive and all internally mounted options. Fused VSD only disconnect (service switch). Fast acting fuses exclusive to the VSD - fast acting fuses allow the VSD to disconnect from the line prior to clearing upstream branch circuit protection, maintaining bypass capability. Bypass designs, which have no such fuses, or that incorporate fuses common to both the VSD and the bypass will not be accepted. Three contactor bypass schemes are not acceptable.

s. The drive / bypass shall provide single-phase motor protection in both the VSD and bypass modes.

t. The VSD shall include a "run permissive circuit" that will provide a normally open contact whenever a run command is provided (local or remote start command in VSD or bypass mode). The VSD system (VSD or bypass) shall not operate the motor until it receives a dry contact closure from a damper or valve end-switch. When the VSD system safety interlock

(fire detector, freezestat, high static pressure switch, etc) opens, the motor shall coast to a stop and the run permissive contact shall open, closing the damper or valve.

u. Class 20 or 30 (selectable) electronic motor overload protection shall be included. There shall be an internal switch to select manual or automatic bypass. There shall be an adjustable current sensing circuit for the bypass to provide loss of load indication (broken belt) when in the bypass mode.

v. There shall be an adjustable motor current sensing circuit for the bypass and VSD mode to provide proof of flow indication. The condition shall be indicated on the keypad display, transmitted over the building automation protocol and on a relay output contact closure.

w. Output signals. The VSD shall include analog output signals for output load, output speed, and motor voltage. The signals shall be 0 to 9 VDC @ 1mA.

x. Input power. The VSD shall operate within the following parameters:

y. Rated voltage  $\pm 10\%$

z. Setup adjustments. Standard setup adjustments shall include:

aa. Minimum speed, 0 to 60%

bb. Maximum speed, 45 to 100%

cc. Linear accel., 1 – 120 seconds

dd. Linear deaccel., 1 – 120 seconds

ee. Maximum output voltage, adjustable

ff. V/Hz, adjustable with selectable profiles

gg. Current limit, 50 to 110%

hh. Operator panel. An operator panel shall be provided for the following functions:

ii. Shall digitally display motor speed, load, motor amps, and output volts.

jj. Shall have eight (8) LEDs for indicating drive run, drive ready, drive fault, plus operator function/status indication such as auto speed reference, and auto restart.

kk. Shall provide selection for start, stop, auto, manual and/or Hand Off - Auto.

ll. Keypad shall include electronic lock-out feature to prevent unauthorized personnel from parameter access.

mm. Bypass control circuitry. Bypass control circuitry mounted integrally to the VSD enclosure. The bypass shall utilize an input power fused disconnect switch to feed both the VSD and the bypass starter. Fuses shall be UL Class RK-1 (current limiting and time delay). An input contactor shall be utilized to feed the VSD and isolate the VSD for trouble shooting. An output contactor which is electrically and mechanically interlocked with the bypass starter shall be utilized on the VSD to provide a positive disconnect between the VSD and the motor.

nn. Additional Protective Features

oo. Input disconnect switch door shall be interlocked and padlockable.

pp. Undervoltage protection.

qq. DC bus overvoltage protection.

rr. Able to withstand output line-to-line short circuits without component failure.

ss. Surge protection from ac line transients.

tt. Overload capability shall be 110% of the motor FLA based on the NEC ratings for 60 seconds.

uu. Line reactors for units 30 hp and larger.

vv. Opening of an output disconnect under load will not result in component damage.

ww. Rotating Motor Start. VSD shall be able to start into a rotating motor and accelerate (decelerate) to set speed without tripping or component loss.

xx. The VSD shall include a communications port to communicate with the Energy Management and Control system (EMCS). Interface shall be provided by the drive manufacturer. As a minimum, the following points shall be controlled or accessible:

1) Start/Stop

- 2) Speed Reference - Input signal of 0-10 Vdc or 4-20mA
- 3) Fault Diagnostics
- 4) Meter Points
  - a) Motor Power in HP
  - b) Motor Power in KW
  - c) Motor kW-Hr
  - d) Motor Current
  - e) Motor Voltage
  - f) Hours Run

D. Codes and standards. The VSD shall meet the following standards:

1. CSA
2. ETL (UL 508)
3. NEMA
4. NEC

E. Maintainability:

1. Control circuit voltages (12 VDC, 24 VDC, 160 VDC and 120 VAC) shall be physically and electrically isolated from power circuit voltages (380 to 600 VAC, 600 VDC) to insure safety to maintenance personnel.

2. The VSD shall be provided with an alphanumeric diagnostic display with fault indications to include the following: bus overvoltage, bus undervoltage, overcurrent, ground fault, timed overload and drive fault.

3. Printed circuit boards shall utilize quick disconnect plugs and/or pull apart terminal blocks to facilitate maintenance by providing quick change out without disconnecting terminal strip connections thereby reducing wiring errors.

4. VSD shall be capable of starting and operating without a motor connected.

5. Setup and operating parameters shall be stored in nonvolatile memory. The static memory module shall be to be removed and installed in replacement logic boards with setup and operating parameters intact requiring no adjustment of replacement boards.

F. Service

1. The VSD manufacturer shall provide at no additional cost to the Owner, a startup service package for VSD's provided. Startup shall be provided at the completion of installation of each unit and VSD. Service shall include inspection, final adjustment, operational checks, and a final report for record purpose. The service package shall include a two year parts warranty from date of substantial completion. Work shall be performed by local factory employed service engineers, who shall respond within 24 hours of being contacted. A 24/365 technical support line shall be available on a toll-free line.

G. Acceptable manufacturer: ABB or approved equal.

- END OF SECTION -

**NEW ORLEANS, LOUISIANA 70118**

FEBRUARY 3, 2010

GVA

## DRAWING INDEX

## MISCELLANEOUS

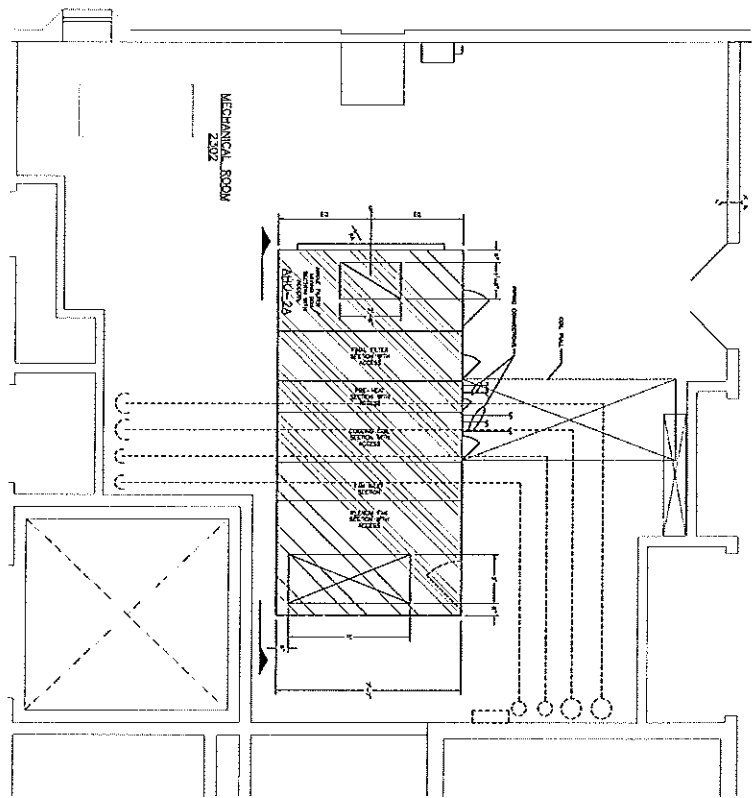
COVER SHEET AND DRAWING INDEX

## HVAC

- M1 CLINT BUILDING - 2ND FLOOR ANALYSIS AND SHEAR PLAN AND ELEVATION
- M2 CLINT BUILDING - 3RD FLOOR ANALYSIS AND SHEAR PLAN AND ELEVATION
- M3 CLINT BUILDING - 4TH FLOOR ANALYSIS AND SHEAR PLAN AND ELEVATION
- M4 CLINT BUILDING - 5TH FLOOR ANALYSIS AND SHEAR PLAN AND ELEVATION
- M5 CLINT BUILDING - 6TH FLOOR ANALYSIS AND SHEAR PLAN AND ELEVATION
- M6 CLINT BUILDING - 7TH FLOOR ANALYSIS AND SHEAR PLAN AND ELEVATION
- M7 CLINT BUILDING - 8TH FLOOR ANALYSIS AND SHEAR PLAN AND ELEVATION
- M8 CLINT BUILDING - 9TH FLOOR ANALYSIS AND SHEAR PLAN AND ELEVATION
- M9 CLINT BUILDING - 10TH FLOOR ANALYSIS AND SHEAR PLAN AND ELEVATION
- M10 CLINT BUILDING - 11TH FLOOR ANALYSIS AND SHEAR PLAN AND ELEVATION
- M11 ADMINISTRATION BUILDING - 2ND FLOOR ANALYSIS AND SHEAR PLAN AND ELEVATION
- M12 ADMINISTRATION BUILDING - 3RD FLOOR ANALYSIS AND SHEAR PLAN AND ELEVATION
- M13 ADMINISTRATION BUILDING - 4TH FLOOR ANALYSIS AND SHEAR PLAN AND ELEVATION
- M14 ADMINISTRATION BUILDING - 5TH FLOOR ANALYSIS AND SHEAR PLAN AND ELEVATION

**THE ORDER OF UNIT REPLACEMENT SHALL BE AS FOLLOWS:**

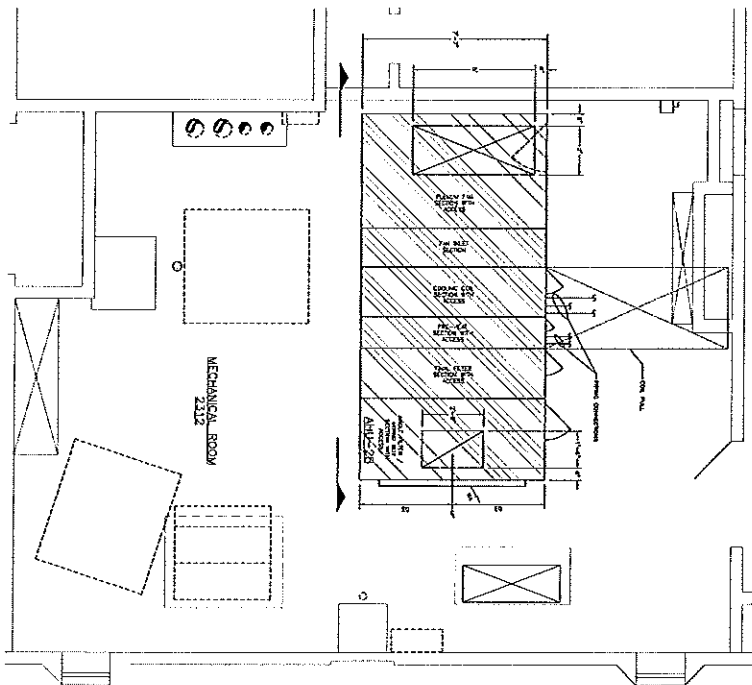
1. AHU-8B & AHU-8C
2. AHU-6A & AHU-6B
3. AHU-3A, & AHU-6A
4. AHU-9B & AHU-8B
5. AHU-2A & AHU-5A
6. AHU-2B & AHU-5D
7. AHU-7C, AHU-7A, & AHU-4A
8. AHU-7D, AHU-7B, & AHU-4E
9. AHU-2A & AHU-3A
10. AHU-2B & AHU-3B
11. AHU-4C & AHU-4D



1/2" = 1'-0"

MECHANICAL ROOM 2312

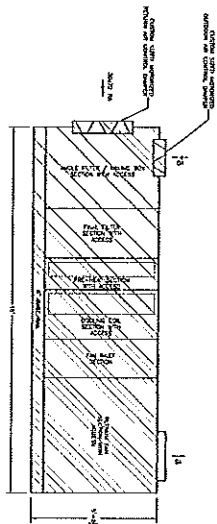
AHU-2A PLAN VIEW



1/2" = 1'-0"

MECHANICAL ROOM 2312

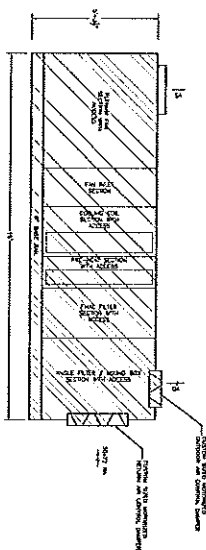
AHU-2B PLAN VIEW



1/2" = 1'-0"

MECHANICAL ROOM 2312

AHU-2A ELEVATION



1/2" = 1'-0"

MECHANICAL ROOM 2312

AHU-2B ELEVATION



CLINIC BUILDING

2ND FLOOR KEY PLAN

NOT TO SCALE

AIR HANDLING UNIT  
EQUIPMENT PURCHASE PACKAGE  
LSU HEALTH SCIENCE CENTER  
DENTAL SCHOOL CAMPUS

1100 FLORIDA AVENUE

NEW ORLEANS

LOUISIANA, 70119

**GVA ENGINEERING, L.L.C.**

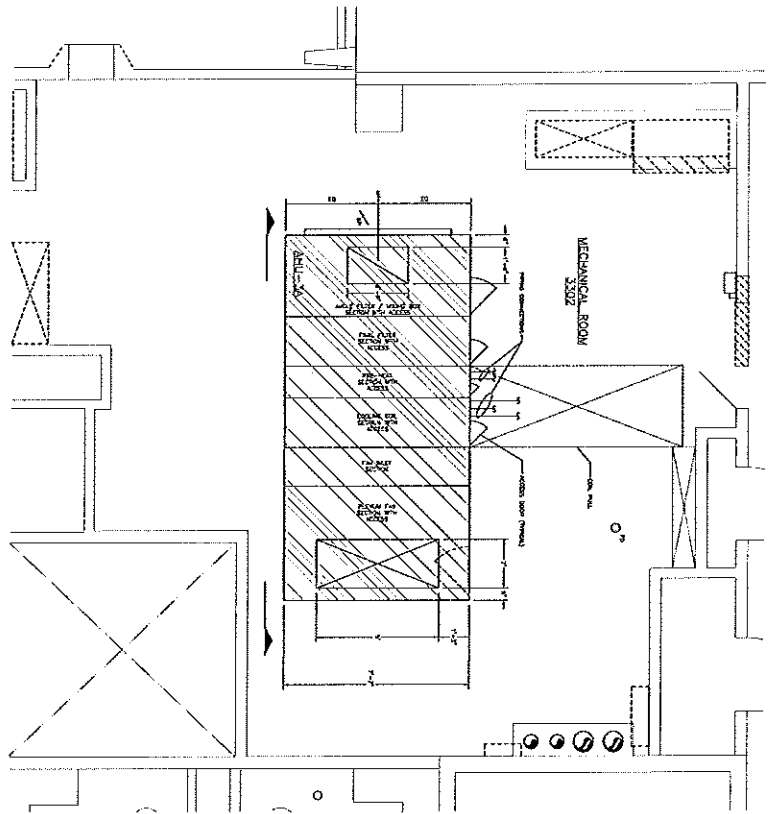
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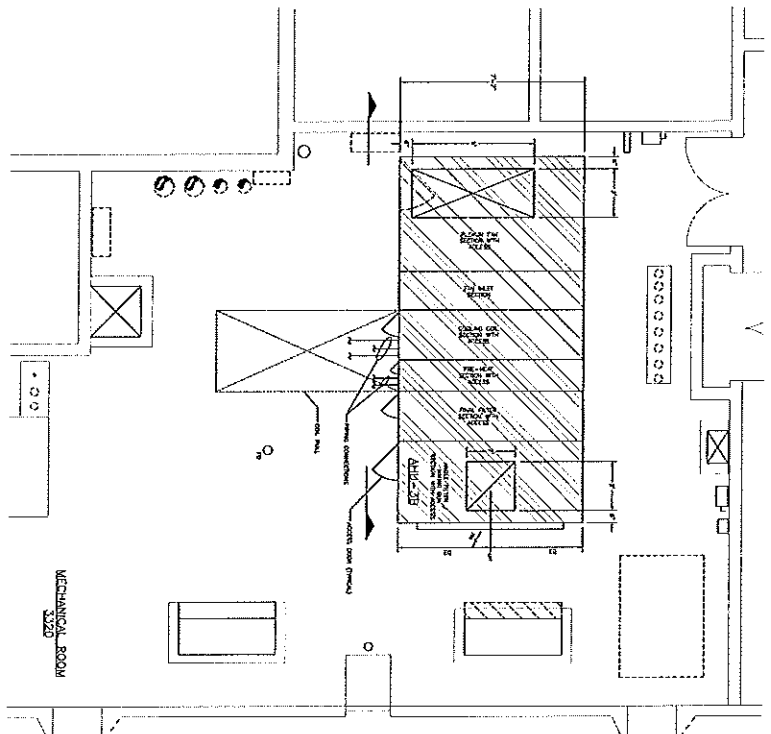
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2626-17

DATE  
02-03-10

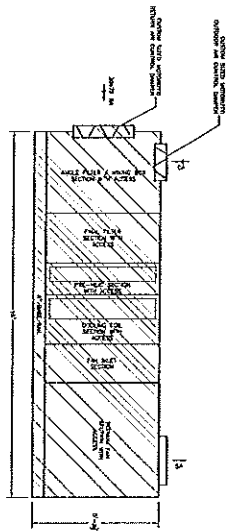
SHEET NO.  
M1



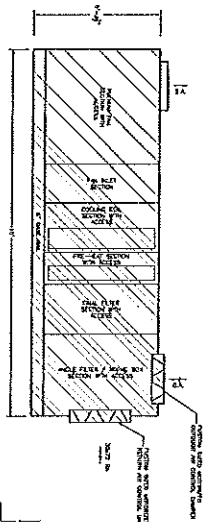
AHU-3A PLAN VIEW  
1/2" = 1'-0"



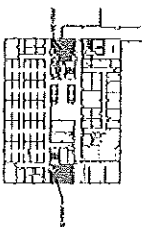
AHU-38 PLAN VIEW  
1/2" = 1'-0"



AHU-3A ELEVATION  
1/2" = 1'-0"



AHU-3B ELEVATION  
1/2" = 1'-0"



3RD FLOOR KEY PLAN  
NOT TO SCALE

BASE BID

AIR HANDLING UNIT  
EQUIPMENT PURCHASE PACKAGE  
LSU HEALTH SCIENCE CENTER  
DENTAL SCHOOL CAMPUS

1100 FLORIDA AVENUE

NEW ORLEANS

LOUISIANA 70119

**GVA ENGINEERING, L.L.C.**

2615 EDENBORN AVENUE - SUITE C

METAIRIE, LA 70002

CLINIC BUILDING  
FLOOR KEY P

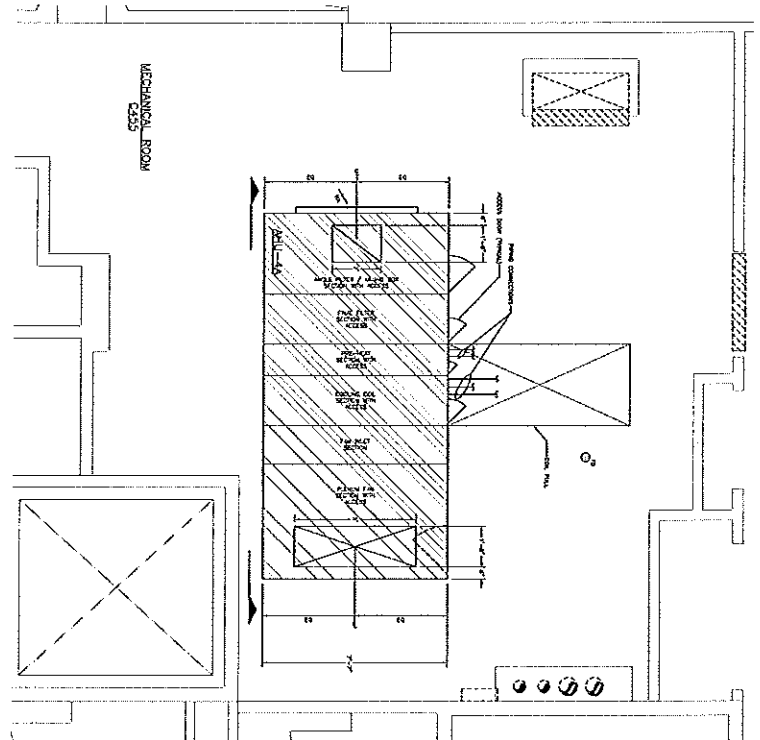
207011  
SHEET NO.

202-11-0707  
SHEET NO.

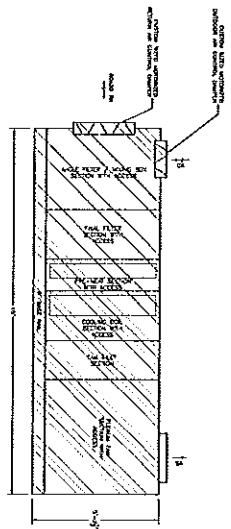
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SHEET NO.

202-11-0707  
SHEET NO.

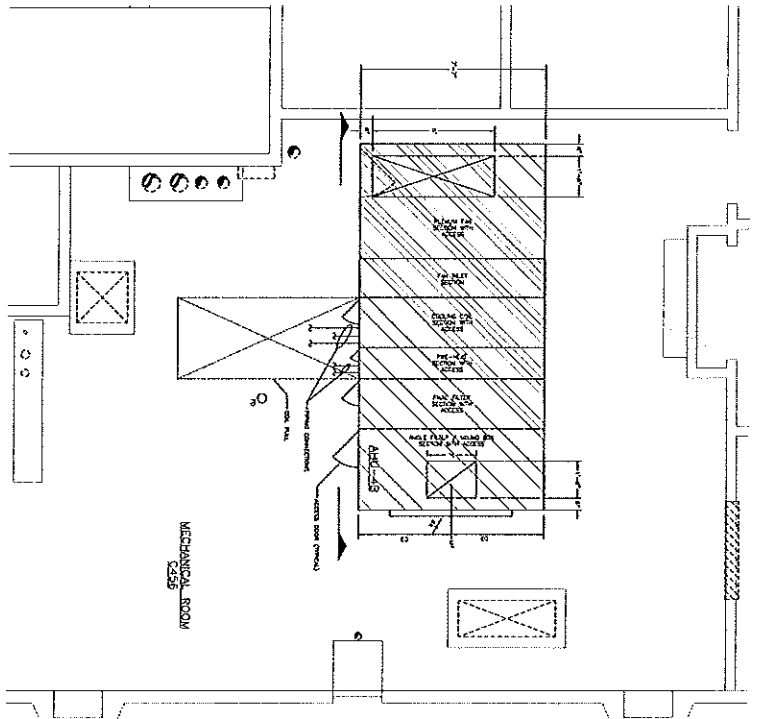
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SHEET NO.



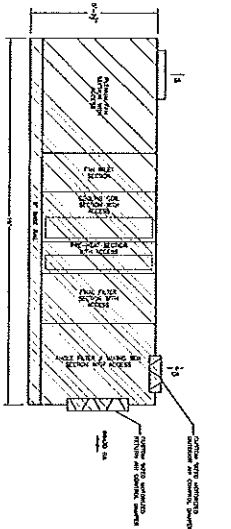
AHU-4A PLAN VIEW  
 1/8" = 1'-0"



AHU-4A ELEVATION  
 1/8" = 1'-0"

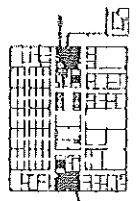


AHU-4B PLAN VIEW  
 1/8" = 1'-0"



AHU-4B ELEVATION  
 1/8" = 1'-0"

BASE BID



CLINIC BUILDING  
 4TH FLOOR KEY PLAN  
 NOT TO SCALE

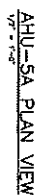


AIR HANDLING UNIT  
 EQUIPMENT PURCHASE PACKAGE  
 LSU HEALTH SCIENCE CENTER  
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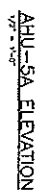
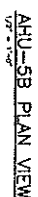
1100 FLORIDA AVENUE NEW ORLEANS LOUISIANA, 70119

**GVA ENGINEERING, L.L.C.**  
 2615 EDENBORN AVENUE - SUITE C METAIRIE, LA 70002

DATE	02-03-10
PROJECT NO.	2626-17
SHEET NO.	M3



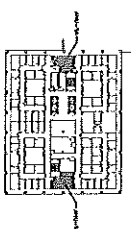
AHU-5B PLAN VIEW  
1/2" = 1'-0"



AHU-58 ELEVATION  
1/2" = 1'-0"



BASE BID



CLINIC BUILDING

5TH FLOOR KEY PLAN

NOT TO SCALE

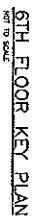
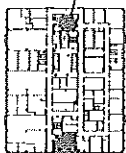
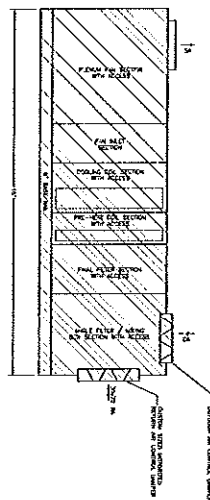
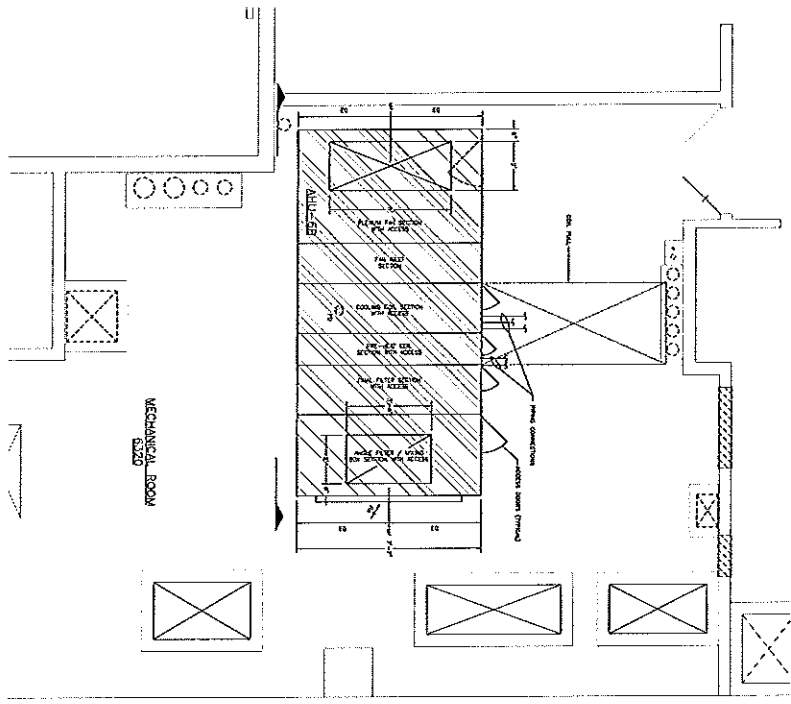
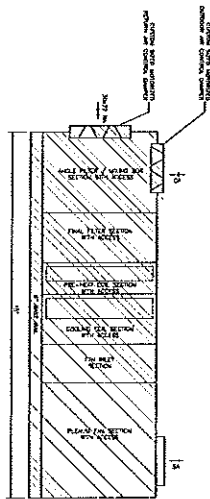
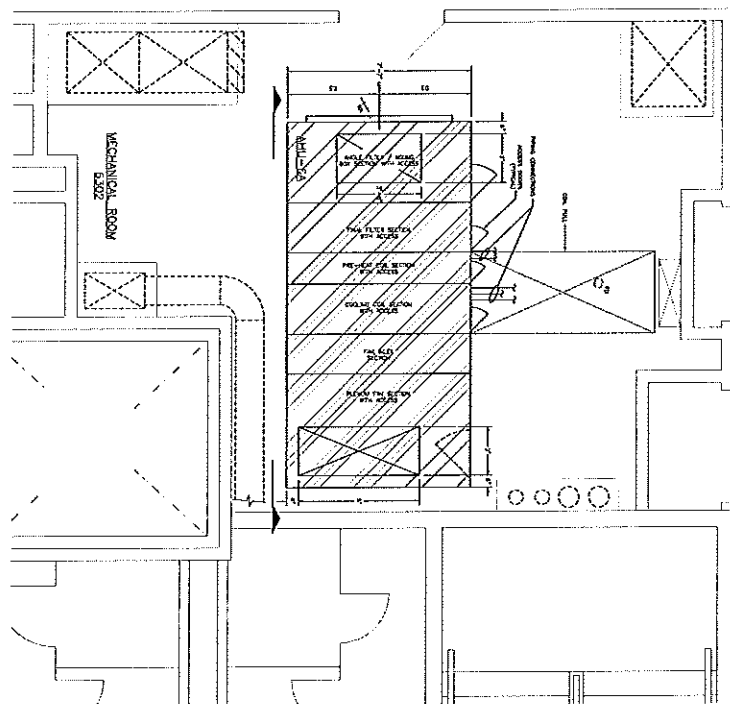
AIR HANDLING UNIT  
EQUIPMENT PURCHASE PACKAGE  
LSU HEALTH SCIENCE CENTER  
DENTAL SCHOOL CAMPUS

1100 FLORIDA AVENUE NEW ORLEANS LOUISIANA 70119

**GVA ENGINEERING, L.L.C.**

2615 EDENBORN AVENUE - SUITE C METAIRIE, LA 70002

✓	DATE
✓	02-03-10
✓	PRODUCT NO.
✓	2626-17
✓	SHEET NO.
✓	M4
OF	SHEETS



BASE BID

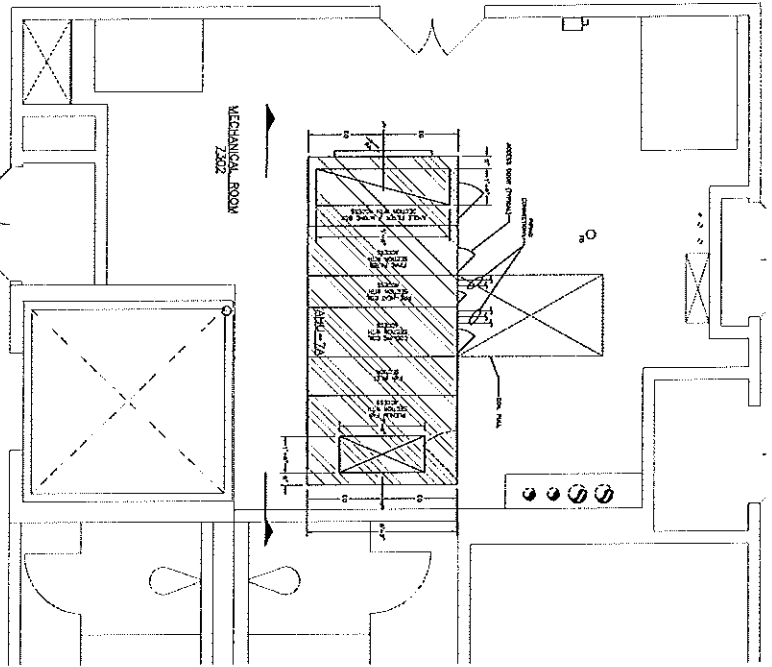
AIR HANDLING UNIT  
EQUIPMENT PURCHASE PACKAGE  
LSU HEALTH SCIENCE CENTER  
DENTAL SCHOOL CAMPUS

1103 FLORIDA AVENUE NEW ORLEANS LOUISIANA, 70119

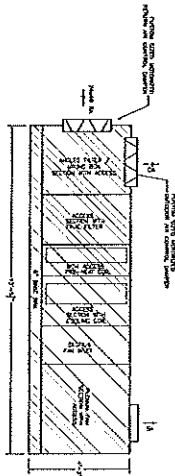
**GVA ENGINEERING, L.L.C.**  
2615 EDENBORN AVENUE - SUITE C      METAIRIE, LA 70002

2615 EDENBORN AVENUE - SUITE C

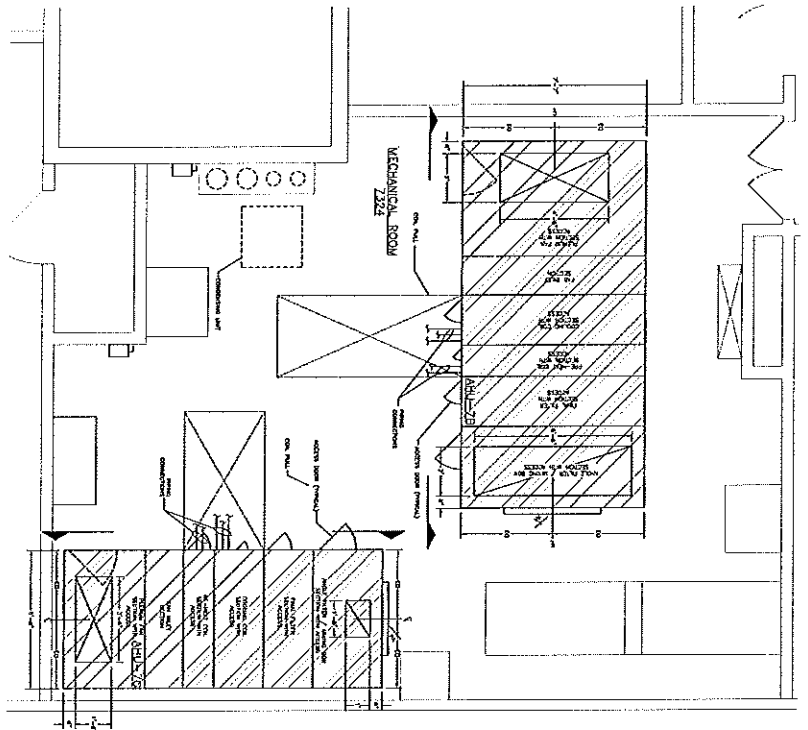
METAIRIE, LA 70002



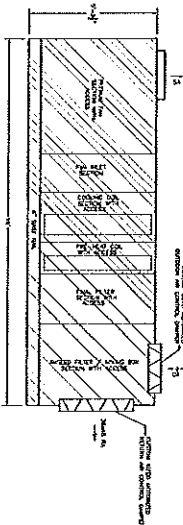
AHU-7A PLAN VIEW  
SCALE: 1/8" = 1'-0"



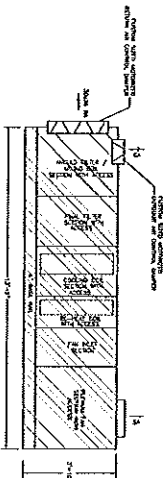
AHU-7A ELEVATION  
SCALE: 1/8" = 1'-0"



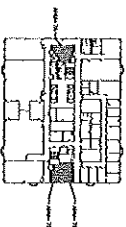
AHU-7B & 7C PLAN VIEW  
SCALE: 1/8" = 1'-0"



AHU-7B ELEVATION  
SCALE: 1/8" = 1'-0"



AHU-7C ELEVATION  
SCALE: 1/8" = 1'-0"



2TH FLOOR KEY PLAN  
SCALE: 1/8" = 1'-0"

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2615 EDENBORN AVENUE - SUITE C

METairie, LA 70002

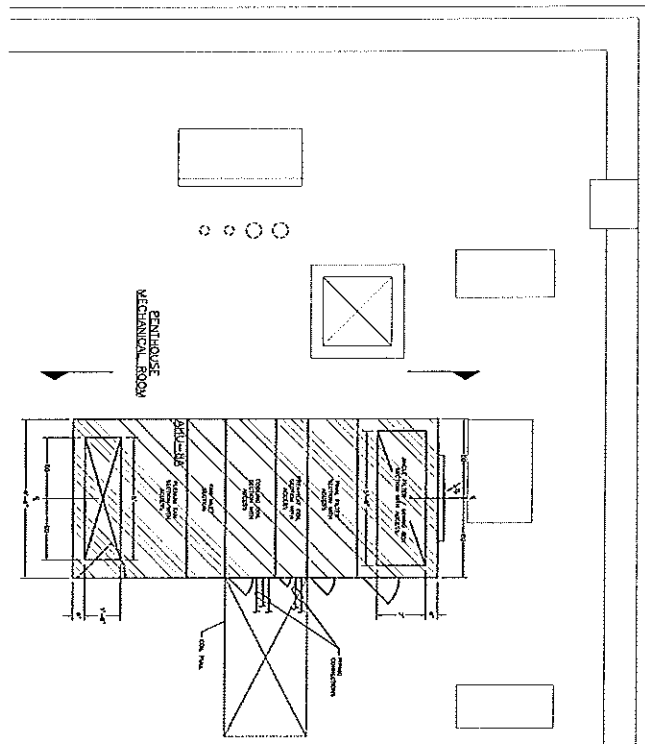
BASE BID

M6

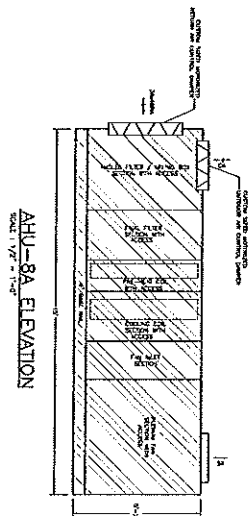
DATE	02-03-10
PROJECT NO.	2626-17
SHEET NO.	
OF	

2615 EDENBORN AVENUE - SUITE C METAIRIE, LA 70002

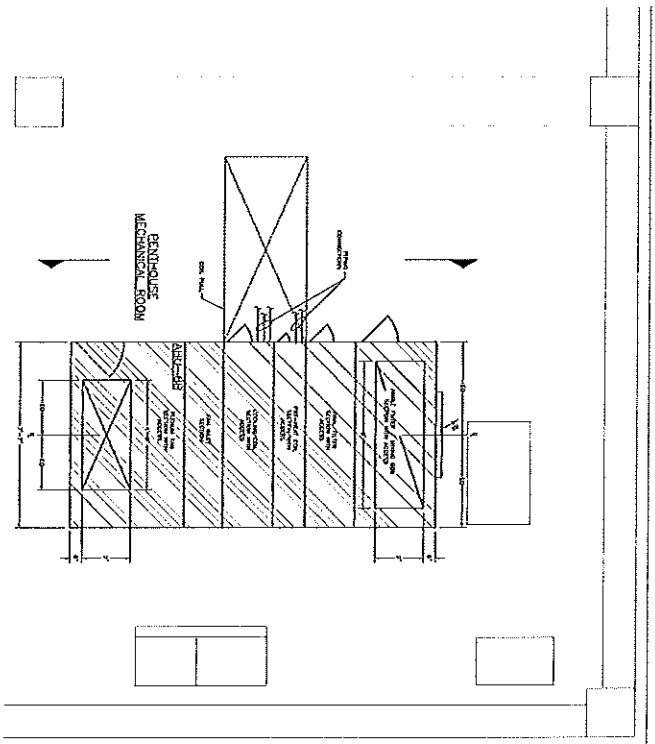
REVISIONS	DATE	BY	CHKD
1	02-03-10	AV	AV
2	02-03-10	AV	AV
3	02-03-10	AV	AV
4	02-03-10	AV	AV
5	02-03-10	AV	AV
6	02-03-10	AV	AV
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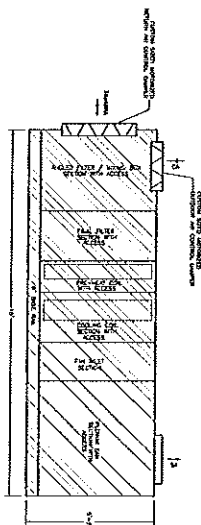
AHU-8A PLAN VIEW  
SCALE: 1/8" = 1'-0"



AHU-8A ELEVATION  
SCALE: 1/8" = 1'-0"

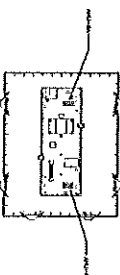


AHU-8B PLAN VIEW  
SCALE: 1/8" = 1'-0"



AHU-8B ELEVATION  
SCALE: 1/8" = 1'-0"

BASE BID



PENTHOUSE FLOOR KEY PLAN  
NOT TO SCALE



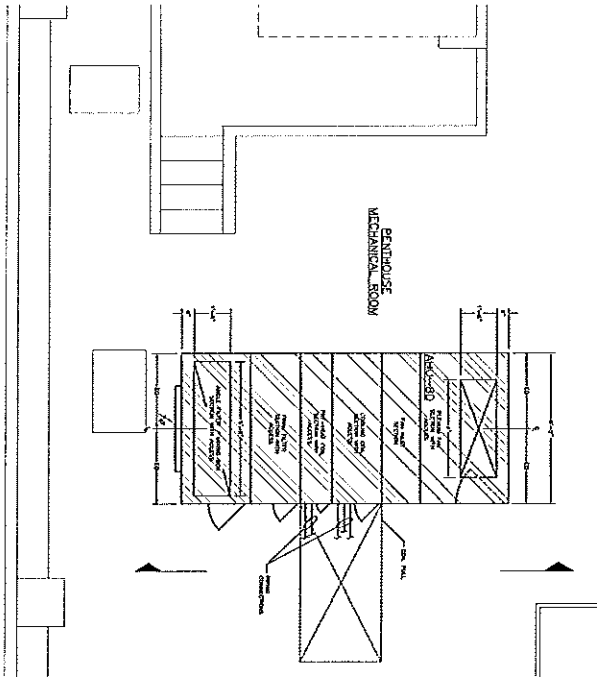
AIR HANDLING UNIT  
EQUIPMENT PURCHASE PACKAGE  
LSU HEALTH SCIENCE CENTER  
DENTAL SCHOOL CAMPUS

1100 FLORIDA AVENUE NEW ORLEANS LOUISIANA, 70119

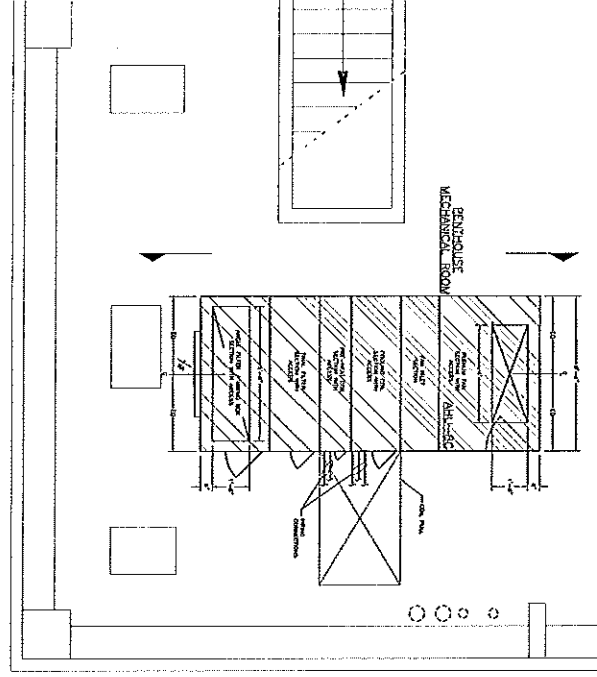
**GVA ENGINEERING, L.L.C.**  
2615 EDENBORN AVENUE - SUITE C METAIRIE, LA 70002

DATE	02-03-10
PROJECT NO.	2626-17
SHEET NO.	M8

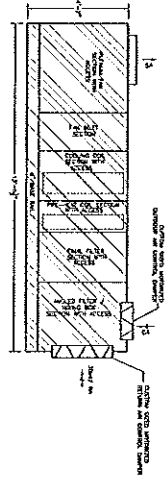
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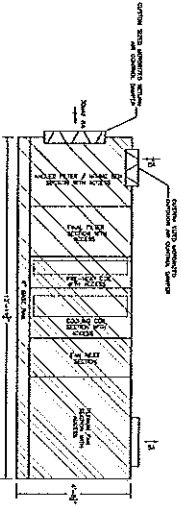
AHU-8D PLAN VIEW  
SCALE: 1/8" = 1'-0"



AHU-8C PLAN VIEW  
SCALE: 1/8" = 1'-0"

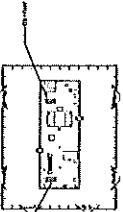


AHU-8D ELEVATION  
SCALE: 1/8" = 1'-0"



AHU-8C ELEVATION  
SCALE: 1/8" = 1'-0"

BASE BID

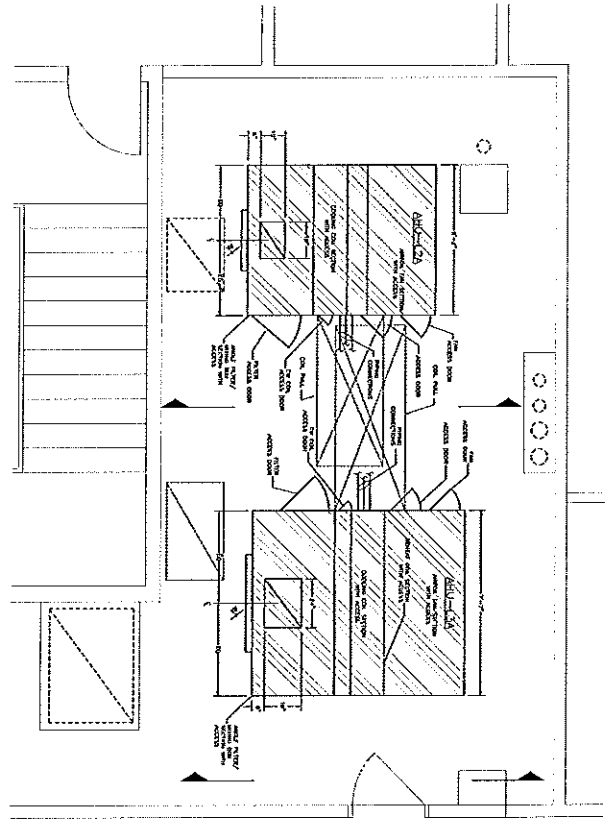


PENTHOUSE FLOOR KEY PLAN  
SCALE: 1/8" = 1'-0"

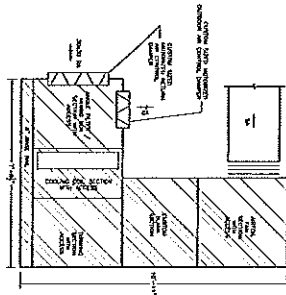
AIR HANDLING UNIT  
EQUIPMENT PURCHASE PACKAGE  
LSU HEALTH SCIENCE CENTER  
DENTAL SCHOOL CAMPUS

**GVA ENGINEERING, L.L.C.**  
2615 EDENBORN AVENUE - SUITE C METAIRIE, LA 70002

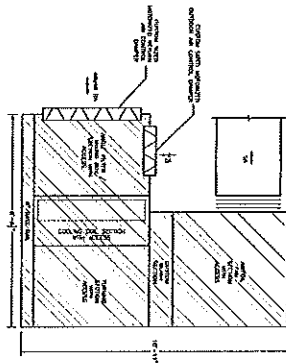
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AHU-12A & AHU-13A PLAN VIEW  
 SCALE: 1/8" = 1'-0"

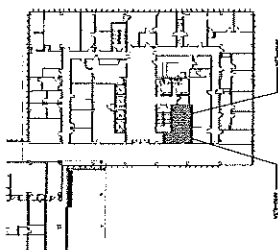


AHU-12A ELEVATION  
 SCALE: 1/8" = 1'-0"



AHU-13A ELEVATION  
 SCALE: 1/8" = 1'-0"

# ADDITIONAL UNITS



ADMINISTRATION BUILDING  
 2ND FLOOR KEY PLAN  
 NOT TO SCALE

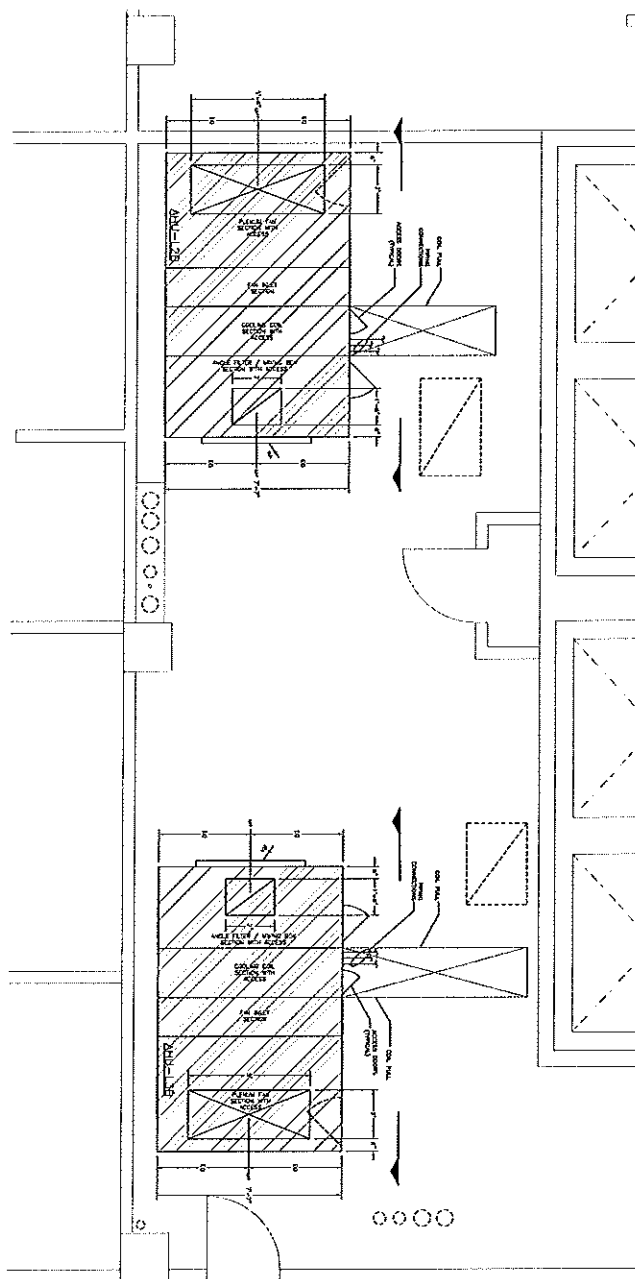
AIR HANDLING UNIT  
 EQUIPMENT PURCHASE PACKAGE  
 LSU HEALTH SCIENCE CENTER  
 DENTAL SCHOOL CAMPUS

1100 FLORIDA AVENUE NEW ORLEANS LOUISIANA, 70119

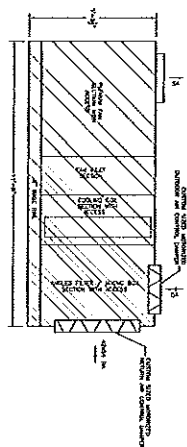
**GVA ENGINEERING, L.L.C.**

2615 EDENBORN AVENUE - SUITE C METAIRIE, LA 70002

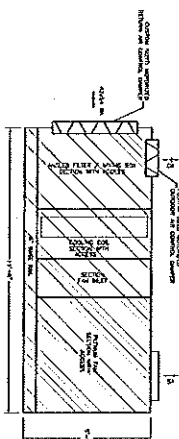
DATE	02-03-10
PROJECT NO.	2626-17
SHEET NO.	M10
OF SHEETS	17

[illegible]

AHU-12B & AHU-13B PLAN VIEW  
SCALE: 1/2" = 1'-0"

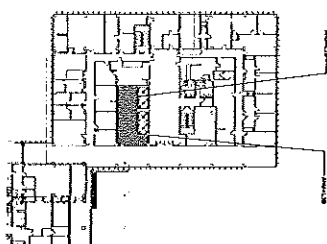


AHU-L2B ELEVATION  
SCALE: 1/8" = 1'-0"



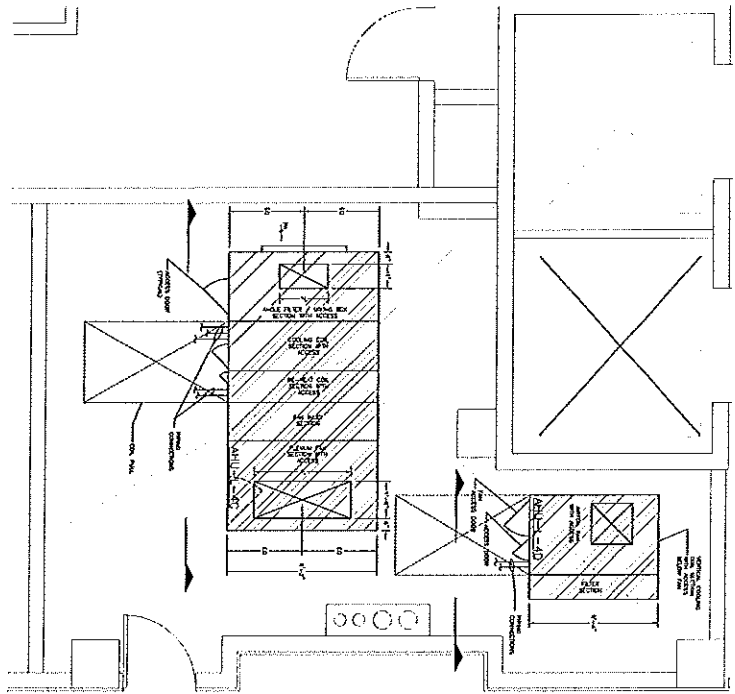
AHU-138 ELEVATION  
SCALE: 1/4" = 1'-0"

### ADDITIONAL UNITS

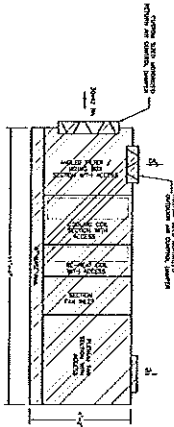


ADMINISTRATION BUILDING  
2ND FLOOR KEY PLAN  
NOT TO SCALE

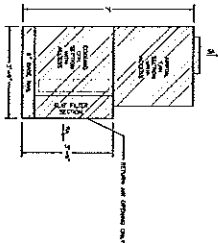




AHU-L4C & AHU-L4D PLAN VIEW  
 SCALE: 1/8" = 1'-0"

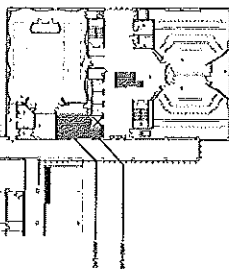


AHU-L4C ELEVATION  
 SCALE: 1/8" = 1'-0"



AHU-L4D ELEVATION  
 SCALE: 1/8" = 1'-0"

# ADDITIONAL UNITS



ADMINISTRATION BUILDING  
 4TH FLOOR KEY PLAN  
 NOT TO SCALE



AIR HANDLING UNIT  
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**GVA ENGINEERING, L.L.C.**

2615 EDENBORN AVENUE - SUITE C METAIRIE, LA 70002

DATE	02-03-10
PROJECT NO.	2626-17
SHEET NO.	M12
OF	SHEETS



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[illegible]

VARIABLE SPEED DRIVE (VSD) SCHEDULE FOR ADMINISTRATION BUILDING	
on weekdays	on weekends
<p>1. 07:00 - 08:00: VSD ON</p> <p>2. 08:00 - 09:00: VSD ON</p> <p>3. 09:00 - 10:00: VSD ON</p> <p>4. 10:00 - 11:00: VSD ON</p> <p>5. 11:00 - 12:00: VSD ON</p> <p>6. 12:00 - 13:00: VSD OFF</p> <p>7. 13:00 - 14:00: VSD ON</p> <p>8. 14:00 - 15:00: VSD ON</p> <p>9. 15:00 - 16:00: VSD ON</p> <p>10. 16:00 - 17:00: VSD ON</p> <p>11. 17:00 - 18:00: VSD ON</p> <p>12. 18:00 - 19:00: VSD ON</p> <p>13. 19:00 - 20:00: VSD ON</p> <p>14. 20:00 - 21:00: VSD ON</p> <p>15. 21:00 - 22:00: VSD ON</p> <p>16. 22:00 - 23:00: VSD ON</p> <p>17. 23:00 - 00:00: VSD ON</p> <p>18. 00:00 - 01:00: VSD ON</p> <p>19. 01:00 - 02:00: VSD ON</p> <p>20. 02:00 - 03:00: VSD ON</p> <p>21. 03:00 - 04:00: VSD ON</p> <p>22. 04:00 - 05:00: VSD ON</p> <p>23. 05:00 - 06:00: VSD ON</p> <p>24. 06:00 - 07:00: VSD ON</p>	<p>1. 07:00 - 08:00: VSD ON</p> <p>2. 08:00 - 09:00: VSD ON</p> <p>3. 09:00 - 10:00: VSD ON</p> <p>4. 10:00 - 11:00: VSD ON</p> <p>5. 11:00 - 12:00: VSD ON</p> <p>6. 12:00 - 13:00: VSD OFF</p> <p>7. 13:00 - 14:00: VSD ON</p> <p>8. 14:00 - 15:00: VSD ON</p> <p>9. 15:00 - 16:00: VSD ON</p> <p>10. 16:00 - 17:00: VSD ON</p> <p>11. 17:00 - 18:00: VSD ON</p> <p>12. 18:00 - 19:00: VSD ON</p> <p>13. 19:00 - 20:00: VSD ON</p> <p>14. 20:00 - 21:00: VSD ON</p> <p>15. 21:00 - 22:00: VSD ON</p> <p>16. 22:00 - 23:00: VSD ON</p> <p>17. 23:00 - 00:00: VSD ON</p> <p>18. 00:00 - 01:00: VSD ON</p> <p>19. 01:00 - 02:00: VSD ON</p> <p>20. 02:00 - 03:00: VSD ON</p> <p>21. 03:00 - 04:00: VSD ON</p> <p>22. 04:00 - 05:00: VSD ON</p> <p>23. 05:00 - 06:00: VSD ON</p> <p>24. 06:00 - 07:00: VSD ON</p>

<p>AIR HANDLING UNIT EQUIPMENT PURCHASE PACKAGE LSU HEALTH SCIENCE CENTER DENTAL SCHOOL CAMPUS</p>	<p><b>GVA ENGINEERING, L.L.C.</b> 2615 EDENBORN AVENUE -- SUITE C      METAIRIE, LA 70002</p>
<p>FLORIDA AVENUE      NEW ORLEANS      LOUISIANA 70119</p>	